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THE SURGICAL TREATMENT OF CANCER OF THE RECTUM.[1]

By E. T. THRING, F.R.C.S.,

Honorary Consulting Gynæcologist, Royal Prince Alfred Hospital, Sydney; Surgeon, Coast Hospital, New South Wales.

PROGRESS is so often hindered by a blind acceptance of some rule or practice laid down dogmatically and accepted by succeeding generations of students and practitioners without careful and critical examination based upon a sound knowledge of normal anatomy and the few established pathological facts, a knowledge of which we possess. The man who refuses to follow blindly and who after careful thought proceeds to break through surgical convention, will raise a storm of opposition and criticism which he must be prepared to meet and answer convincingly. After having done this, it is quite probable that he and his work will be ignored, although gradually his established facts will be quietly accepted and made use of.

In dealing with the subject for discussion to-night I shall refer incidentally to certain surgical procedures in which I very definitely broke through the accepted surgical conventions of the day and so came to certain conclusions and methods of surgical practice which have in various ways enabled me to arrive at a definite crystallization of my ideas on the subject of the surgical treatment of carcinoma of the rectum and pelvic colon from the anus up to about seven and a half centimetres (three inches) above the pelvic floor.

A short review of the stages by which one arrived at the present position, may not be out of place.

Forty years ago it was becoming gradually recognized that in dealing with malignant or cancerous growths, a real and practical knowledge of the anatomy of the lymphatic system was necessary. In those remote and surgically dimly lighted days it was usual to remove as thoroughly as possible the obvious growth and hope for so-called "non-recurrence," instead of attempting to remove the lymphatic vessels and glands in which "secondary deposits," not "recurrences," took place. It was this fact, as applied to carcinoma of the breast, which logically forced me to take up a similar position and practice in regard to carcinoma of the uterus just thirty years ago. For the first ten years or more I met with nothing but hostile criticism and opposition in spite of demonstrated results. As against this the work then done has greatly helped me in coming to definite conclusions as to the surgical treatment of carcinoma of the rectum. These conclusions should have been arrived at many years ago by me.

[1] Read at a meeting of the Section of Surgery of the New South Wales Branch of the British Medical Association on November 12, 1924.

Again, at least twenty-five years ago I took up the definite position that abdominal drainage should be minimized as against the then held and even present-day opinion that the vast majority of (if not all) cases in which the peritoneal cavity was opened, must be drained. The result was a diminution of mortality rate and also of post-operative morbidity, because of the lessening of post-operative adhesions and bands in the peritoneal cavity.

There are many other material points having a very practical bearing upon the success or failure of the operation under discussion, such for instance as a clear exposure of the main blood vessels requiring division and ligature, the use of relatively fine, rather than heavy absorbable ligatures, a minimizing of the use of clamps both on vessels and intestine and above all a gentle and minimum handling of the peritoneum and viscera not actually involved in the immediate area of operation.

It is understood that we are not discussing the treatment of new growths of the big gut above or even up to the pelvic brim. The objects to be attained or aimed at are: (i.) Complete removal of the primary growth and of secondary deposits in lymphatic vessels and glands which are in relation to the primary growth; (ii.) a minimizing of the risks to life of or by the actual operative procedure; (iii.) a due regard for the post-operative comfort of the patient; in other words, a minimizing of post-operative disability.

We can perhaps best sum up the present position by a reference to the views held and the practice followed by three surgeons who have written on the subject, namely Mr. Ernest Miles, Mr. Lockhart-Mummery and Mr. Coffey, of America, and also by referring to the conclusions arrived at as the result of a discussion by the members of the British Medical Association in England some twelve months or more ago.

In the course of the discussions with surgeons who meet with and operate upon such cases, I find that many of them are not prepared to take up a definite position at the present time. Let me make it quite clear that, while urging that all operative procedures for the removal of malignant growths should be as radical as possible, I would with equal emphasis condemn any attempt at a radical operation when the primary growth involves other organs, such as the urinary bladder, the ureters or where there are secondary deposits outside the area of "spread" as indicated by Ernest Miles. They are no more justifiable than are some of the more recent experiments in gastric surgery or the operation of colectomy for the treatment of constipation or various ailments other than malignant growths.

The man who practises the art of surgery, as opposed to the mere operator who is at best only a copyist, will realize that it is wise to interfere as little as possible with Nature's anatomical and physiological arrangements. His business is to replace as gently as can be the erring individual on the right track again or at all events as nearly so as is possible.

Looking from another point of view, in fact the one which interests us to-night, it means that until we have solved "the origin of cancer" and possibly in the future are enabled to cure or alleviate by other means than by operation, our operative work must be as radical as is possible.

Before going further, let me say that as regards radium and X-rays I know so little that I am not competent to express a dogmatic opinion. I am, however, quite sure that if I found myself called upon to decide on purely personal grounds, my decision would be in favour of surgery as against radio-therapy in the first instance.

We will now make a comparative examination of the surgical procedures adopted by Mr. Miles, Mr. Lockhart-Mummery and Mr. Coffey. I do not intend to take up your time by a detailed description of each man's method. Mr. Miles published his technique in *The British Journal of Surgery* (Volume II., No. 6, 1914). Mr. Lockhart-Mummery has written a book, published in 1923. Mr. Coffey has published his latest conclusions in *Surgery, Gynecology and Obstetrics* (Volume XXXVIII., June, 1924).

We may assume that no surgeon will do a major operation upon an entirely unsuitable subject. For instance, uncontrollable glycosuria, serious cardiac lesions, renal inefficiency are some of the conditions which would make one decide in favour of palliative rather than radical measures. On the other hand, I have made it a rule that when dealing with malignant disease a patient who appeared to me to be on the "border line," should always be given the benefit of the doubt and the operation should always be attempted, the surgeon having in view an alternative plan should the radical operation be impossible.

This brings up another important point, the personal equation of the surgeon. What one man will turn down as impossible, another will successfully carry through.

And upon this question hinges another important matter, namely the value of statistics—those of either one operator or of many grouped together. Personally, I have ceased to be greatly influenced by statistics.

I may say here that I should not have ventured to bring this subject before you, were it not for the fact that the principles involved, as well as the anatomical area and structures are so closely allied to those which influenced me in planning my own radical operation for *carcinoma uteri* in 1894 and in carrying it into effect in 1895 and with certain improvements in detail continuing to practise it ever since, that I can reasonably speak somewhat dogmatically as to the risks and possibilities involved. I regret that I had not sufficient breadth of vision in 1894 to enable me to recognize the applicability of the technique and principles involved in the surgical treatment of cancer of the uterus to that of cancer of the rectum. This was reserved for Mr. Miles.

I believe that the chief points which have militated against a wider adoption of Mr. Miles's operation are: (i.) The sacrifice of anal control of

fæces; (ii.) a fear that the operation was too severe and that, therefore (iii.) the mortality would be too high.

In meeting these objections I must remind you that we are only dealing to-night with growths involving the rectum from the anus up to a little above the pelvic floor. Above this level I do not think that Mr. Miles's operation applies.

It has been amply demonstrated that when the malignant growth is placed seven and a half to ten centimetres (three to four inches) above the pelvic floor, thorough mobilization and free excision of the gut, especially above the growth, with end-to-end or end-to-side anastomosis give the best results.

As an instance and also as bearing upon the question of age, I may quote the case of Mr. F., *ætatis* sixty-five years. In this case the growth was easily palpable through the abdominal wall. There had been repeated attacks of peri-colitis. I had intended to do Miles's operation, but found that it was possible to save the lower part of the rectum and anus and to make an end-to-end anastomosis. The operation was done in August, 1915. The patient is still alive and free from secondary deposits. The mass of new growth was extensive and ulcerated. It was necessary to remove thirty-seven and a half centimetres (fifteen inches) of the gut.

Objections to Miles's Operation.

1. The sacrifice of the *sphincter ani* is only justifiable when the growth is at or about the anus —in the rectal ampulla or at the level of or a little above the pelvic floor. In such cases a well-made and placed iliac colotomy, as against a colostomy opening, is far better than any form of sacral anus.

2. The severity of the operation?

Here I feel that my experience of the radical operation for cancer of the uterus, extending over twenty-nine years and also the fact that I have a fair, although naturally less extensive, practical knowledge of Mr. Miles's operation for cancer of the rectum, justifies me in saying that the latter operation is less difficult and severe than the former and yet the mortality following the radical operation for cancer of the uterus is so low and the post-operative morbidity so nearly absent that I have never any hesitation in coming to a decision in favour of operation in every case right up to the border line.

One of the chief bug-bears appears to be danger of wounding or dividing one or both ureters. I maintain most strongly that in at least 99% of cases if the operator will define and expose the ureter from the pelvic brim right up to its entrance into the bladder and will eschew the use of clamps in this region, he will not damage the ureter.

The question of control of blood vessels is so closely interwoven with the safety of the ureters that this is the place to deal with it.

In some of my earlier cases of *carcinoma uteri* I made it a practice to tie and divide the anterior division of the internal iliac artery and in certain instances where this anterior division was too short to allow of the placing of two ligatures of No. 2 plain catgut and permit of division between them, I used to tie the internal iliac itself, although I never found this necessary on both sides. In two cases where this was done, there was a slight leak of urine, first noticed about the third or fourth day and in each case entirely disappearing on the tenth to thirteenth day. This I attributed to interference with one of the small nutritional arteries of the ureter, due to division of the internal iliac artery.

In those days I made use of a lightly packed gauze drain from pelvis into vagina, but for the last nineteen to twenty years I have discarded all drainage with certainly not more than two or three exceptions.

The bearing of this is that it has been suggested that the internal iliac should be tied as an added security in doing Miles's operation. This is entirely unnecessary and, as you know, not advised by Mr. Miles himself.

I can say that during twenty-nine years I have not wounded a ureter or bladder while doing a radical operation for cancer of the uterus. Therefore, let us dismiss the bug-bear of wounded ureters, if only the operator knows his pelvic anatomy, is careful and will avoid the use of clamps and use instead an aneurysm needle for the vessels.

Later on I intend to quote a recently done instance of Miles's operation which may seem to call at first sight for a modification of this dictum.

Advantages of Miles's Operation.

The advantages of Mr. Miles's operation are: (i.) It is begun and completed at one sitting; (ii.) the abdominal section allows a thorough examination and decision as to the propriety of attempting a radical operation or not; (iii.) the colotomy as distinguished from a colostomy is easily and readily effected; (iv.) complete and visual control of blood vessels and ureter or ureters is obtained; (v.) there is free access to and control of the lateral ligaments of the rectum, so that they can be efficiently seen and divided, together with the middle hæmorrhoidal artery. This is of supreme importance, as it enables the perineal portion of the operation to be done easily. (vi.) The immediate opening of the colon at the colotomy wound is of the greatest help, as it enables flatus to pass early and so distension is avoided. Also, it is a fact that if the patient has been properly prepared as to the bowel condition before operation, there is very frequently no soiling of the colotomy wound by passage of fæces until the second day. This fact has a very definite bearing upon the question of infection of the abdominal wound.

It is, I think, generally conceded that Miles's operation is the best planned and most radical of all and in my opinion it is the operation of choice with few if any exceptions for those cases which we are considering to-night.

Mr. Mummery, while admitting the completeness and efficiency of Miles's operation, hesitates between it and a perineo-sacral operation, either preceded by an iliac colostomy or ending up with an attempt

to save the *sphincter ani* or a para-sacral opening of the gut.

In either case the operation is less thorough and, therefore, less likely to result in freedom from spread—I use Miles's expression as being graphic—the control of blood vessels is less complete, the access to and division of the lateral ligaments of the rectum are far more difficult from below than from above and the possibility of wound of a ureter far greater.

Again, when a preliminary colostomy has been done, there is a variable length of gut left as a blind end and this does frequently give trouble.

To sum up, I believe that Mr. Mummery's practice is not nearly as efficient or to be commended as is Mr. Miles's technique.

Mr. Coffey most emphatically advises a two-stage operation, together with what he describes as a "quarantine" drain. He also uses clamps very freely on both gut and blood vessels.

While Mr. Mummery, if he does a two-stage operation, limits the first stage to a colostomy, Mr. Coffey, on the other hand, in his first stage not only does a colotomy but deliberately "devitalizes" and "devascularizes"—I use his own words—perirectal tissues as well as intestine itself.

These "devitalized" and "devascularized" tissues are left still attached to the patient for ten days or more, awaiting the second stage. When the time is consdered ripe for the second stage, that is at the end of ten days or more, during which the patient is expected to become "in a good healthy condition," the second stage is effected. Again I quote from Mr. Coffey's paper: "Usually there is a good deal of pus and *débris* in this cavity, which is entirely ignored as harmless."

In other words, Mr. Coffey deliberately invites sepsis by his elaborate and intricate two-stage operation. His own paper is, I think, the best argument against a two-stage operation such as he describes.

Finally, you will probably have gathered that I am whole-heartedly in favour of Miles's operation, as applied to cases such as we defined previously and absolutely opposed to any modification of Kraske's operation.

Dr. Stewart McKay very kindly gave me an opportunity to see him do his "simplified sacral protectomy." Unfortunately, I was unable to be present at the operation, but he also sent me his monograph on the subject. This I have read carefully. Dr. McKay has obviously been influenced by Mr. Miles, but I think he fails to grasp some of the salient points of Miles's operation, especially with regard to the blood vessels, ureters and lateral ligaments of the rectum.

I was much interested in Dr. Schlink's case of a radical abdomino-perineal operation for cancer of *cervix uteri* and vagino-rectal septum. It illustrates very well one fact which used to trouble me, namely the probable result if, in doing Miles's operation, one was not able to bring the peritoneum together and so make a false pelvic floor. In Dr. Schlink's case the uterus was not available to help fill in, but all went well without it.

Dr. Schlink, so far as the uterine part of the operation was concerned, did the vagino-abdominal operation which I initiated twenty-nine years ago. The management of the rectal portion of the operation was very well planned. The result was good and therefore justified the procedure. I think, however, that if I met such a case, I should feel inclined to do the whole operation at one sitting.

And now I am going to justify my "profession of faith" made to you at our first sectional meeting. At that meeting when the statement was made that no man was likely to admit failure, I ventured to disagree and gave an instance of fact to justify my attitude. I am going to do the same thing again, because I hope to learn by so doing and possibly you may also.

Six weeks ago a patient came to me upon whom I had done my own radical operation for *carcinoma uteri* over twenty-four years ago. She had been perfectly well until a few months before consulting me in September, 1924, when there was bleeding from the lower bowel. This was repeated and when six weeks ago I examined, I found a somewhat extensive cancer of the ampulla of the rectum. I decided to do Miles's operation, realizing at the time that the free removal of peritoneum forming the broad ligament and the exposure of the ureters at the previous operation would make things unusually difficult. Added to this was the fact that at that time I used to drain the pelvis into the vagina.

The operation was difficult and I sincerely trust I shall never have to deal with a similar case again.

One fact was of interest, however. There were no general adhesions as the result of the gauze drain from the pelvis, probably because of the fact that the gauze was very lightly packed and removed early. A drainage tube in that position is, I think, bad.

All went very well until ten full days after the operation; there was then a leak of urine from the perineal wound. The abdominal incision and colotomy had given no trouble in any way. The interval of ten clear days between the operation and leak is, I think, a sufficient proof that there was no wound of the bladder or ureter at the time of operation. The patient was not a very good surgical subject, for although there was no obvious cardiac lesion and she stood the long operation better than I expected, her metabolism was poor, she had a smooth, glazed tongue, but no sugar or albumin in the urine. Her mentality was poor, making her a difficult patient to nurse.

The quantity of urine passed from the bladder daily—over half a litre (between seventeen and eighteen fluid ounces)—made me think that there was a small nutritional slough in one ureter and that the urine from one kidney flowed into the bladder, while the urine from the other kidney escaped through the perineal wound. The amount of leakage appeared to decrease as days went by and I therefore hoped for a similar result to that which happened in the two cases to which I referred previously. This delay I now regret, because on placing the facts before Dr. Harry Harris, he told

me that his experience in the few somewhat similar cases he had seen was that unless a ureteral catheter were passed within about one week from the commencement of the leak, it was usually impossible to get the catheter past the site of the lesion. This proved to be the case when Dr. Harris made a cystoscopic examination and was able to get the ureteral catheter to pass only about ten to eleven centimetres (four to four and a half inches) beyond the trigone.

It was impossible, owing to the patient's curious mental condition, to use the cystoscope without an anæsthetic. This, although of short duration and most skilfully given, appeared so to affect her already flabby heart that she died about twenty-four hours afterwards. What exactly happened to the damaged ureter I do not know. I think that the lapse of time between the operation and the commencement of the leak is sufficient evidence that there was no direct damage at the time of operation. Dr. Plomley, who assisted me at the operation, is certain that the ureter was not damaged then and I agree with him.

The result was most disappointing, especially as for ten days all seemed to be going well.

Before making the cystoscopic examination Dr. Harris gave an injection of indigo-carmine. The presence of this in the urine in the bladder and that coming through the right ureter showed that all was well with the right kidney and ureter; the stain of indigo-carmine in the urine which leaked through the perineal wound, proved that the left kidney was functioning. Subsequently to the cystoscopic examination I much regret that I was unable to obtain a *post mortem* examination.

In placing these facts before you as I have done, I am pleading as an advocate for the adoption of a definite line of treatment to be followed in the class of case under discussion.

SOME POINTS ON REPAIR OF RECENT LACERATIONS OF THE PERINEUM.[1]

By H. Z. Throsby, M.B. (Sydney).
Honorary Assistant Gynæcological Surgeon, Royal North Shore Hospital, Sydney.

I feel somewhat apologetic for bringing before you to-night this subject of repair of recent perineal lacerations. It may be considered by many general practitioners as well as obstetricians to be a commonplace and rather an unimportant matter, but anyone who sees a number of gynæcological out-patients, cannot fail to be impressed with the large proportion of relaxed vaginal outlets as well as obviously scarred and unhealthy perineal tissue, the remains of faulty repair at childbirth. Then again a large proportion of our minor gynæcological operations consist of repairs to the vaginal walls and perineum. Without going fully into the causes and prevention of perineal lacerations, I think that two main features in their causation are: (i.) The improper and hasty use of forceps and (ii.) the variety of forceps used.

As regards the improper and hasty use of forceps, I have been often amazed at the roughness and force used in the application of forceps by many practitioners. To pull as hard as possible and to deliver the head in the least possible time seems to be the aim of many otherwise sound and careful men. I know of one famous practitioner, now happily in other lands, who almost invariably used his foot against the patient's buttock to help his more than usual muscular strength. It may be taken for granted that there are some difficult cases of contracted pelvis in which much force has to be used to bring the head through the bony pelvis, but even in these difficult cases it is often possible by proper care to do little injury to the soft parts of the pelvic outlet.

To assist the extension of the head once it has passed the bony outlet by gradual flexion of the handles of the forceps on the patient's abdomen does much to minimize perineal lacerations. Above all things, the last stage of a forceps operation should be taken slowly. Nature at this stage should be imitated as far as possible by allowing the head to distend and stretch the *levator ani* muscle. I feel sure that many cases of submucous rupture and separation of the *levator ani* without any deep lacerations which lead to subsequent relaxation of outlet, are caused by the too rapid delivery of the head when on the perineum.

As regards the second cause, namely, the variety of forceps used, let me say at once that nothing will convince me that there is anything to compare with certified Milne-Murray axis traction forceps and I should here like to express my deep appreciation of our President's preaching of this fact in and out of season. He has, I believe, even presented these forceps to a maternity hospital and some years ago wrote a most illuminating paper on their use in The Medical Journal of Australia. How a practitioner once having seen them used, can consider any other pattern or modification passes my understanding. Intelligently used, I firmly believe they minimize to a large extent perineal and vaginal injuries.

There seems to be some little difference of opinion in regard to the time when lacerations should be repaired. One of my colleagues, Dr. Isbister, of whose obstetric knowledge I frequently avail myself, often prefers to wait some hours after childbirth before uniting the torn tissues. This practice has some advantages, for most of the hæmorrhage from the tears has probably ceased and if the patient has been severely shocked by the confinement, she has probably recovered to a great extent a few hours afterwards. Still it seems to me that, except in unusually severe confinements, it is better to finish the whole thing as soon as possible, so that the patient has not the dread of a second anæsthetic. This may be somewhat risky in exhausted patients. Therefore, in my own practice I nearly always suture any lacerations as soon as the child is born. I always place the patient in the dorsal position with the knees supported on stirrups and, as

[1] Read at a meeting of the Section of Obstetrics and Gynæcology of the New South Wales Branch of the British Medical Association on December 18, 1924.

most maternity hospitals are now equipped with the Foster accouchement bed, this position is very quickly and easily obtained. In private houses the use of the cross bed position and the application of Kelly's straps to the legs of the patient make the deliberate suture of all tears comparatively easy. In my opinion the lateral position of the patient makes the suturing difficult and clumsy, for in this position the extent and depth of the lacerations cannot be accurately determined. If the services of a second nurse can be had, she holds a douche can above the patient and the blood clot is washed away from the lacerations. Then, with gloved fingers, a moist gauze strip about five inches wide and several layers thick is pushed well up to the vault of the vagina, carrying with it the tied cord. This part of the technique may be open to criticism as by pushing up gauze it is conceivable that skin organisms may be also introduced from the perineum and surrounding skin. However, it seems to me that with proper preparation of vulva beforehand, there is very little risk of introducing sepsis in this way. This strip of gauze keeps back the blood from the uterine cavity and thereby insures a good view of the injured parts. The mucous membrane of the vagina is then sutured with number three catgut carried on a fully curved, round-bodied, but square shanked needle. I think this particular needle was designed by Dr. George Armstrong and for this particular suture it answers admirably. The suture is a continuous one and the needle is introduced as close as possible to the mucous membrane margin. The needle is also made to take up the deeper tissues of the vagina, namely the *levator ani* muscle and is continued down to the union of skin and mucous membrane, but it never includes any skin. Catgut, as you all know, is a perfectly useless suture material in the skin of the perineum.

Should the laceration be complete, that is if it should involve the sphincter muscle and extend into the rectum, the rectal mucous membrane is first carefully sutured with interrupted stitches of either fine silk or linen thread, the knots being tied so that they project into the rectum. These unabsorbable sutures cut out in a few days and give no further trouble. I believe that catgut used here is also useless. In text-book descriptions the sphincter ends are almost invariably shown neatly united with catgut, but I follow always the teaching of my old chief, Dr. Worrall, who condemns catgut suturing of the sphincter ends and trusts to approximation of the torn ends by properly placed silkworm gut sutures inserted outside the sphincter ends and coming out through the skin on either side.

The insertion of these sutures is the most important step of all in complete rupture of the perineum and their proper placing is said to have caused their originator, Emmett, much anxious thought. It should be remembered that these particular sutures act more as relaxation sutures than anything else and in connexion with them, as with all sutures of the perineum, I would lay stress on the point that they should not be tied too tightly. I feel sure that too much tension in tying sutures here is a common cause of failure of union.

After the rectal mucous membrane has been sutured and the sphincter sutures placed but not tied, the vaginal mucous membrane is carefully united by a continuous catgut suture as already described. There are then left ununited the torn perineal tissues consisting principally of *levator ani* muscle and skin. One is often tempted to use here buried catgut sutures to unite the torn *levator ani* muscle, but from my own personal experience of its use I think catgut, except for the vaginal mucous membrane, should not be used in recent lacerations. I would much rather trust to union by deep interrupted fishing gut sutures entering and emerging very close to the skin margin. The sutures should be tied separately from behind forward and, if the sphincter be torn, the suture controlling the ruptured ends should be very carefully adjusted. I believe in leaving the ends of the tied sutures long, as by doing so the patient is less likely to be troubled by the pricks of shortly cut stitches. Moreover, if the ends are left long, the sutures are more easily removed.

There are often quite extensive lacerations about the urethral opening and anterior vaginal wall and unless searched for they are often overlooked. These should be sutured with interrupted stitches of fine catgut and they usually give no further trouble.

As regards after treatment I think the perineum should be kept as dry as possible, but without the use of antiseptic dusting powders. These are both useless from an antiseptic point of view and also only tend to encrust the stitches and make the patient uncomfortable. I, therefore, discourage frequent bathing and trust more to frequent renewal of the sterilized pads.

In complete ruptures of the perineum an early movement of the bowels, say on the fourth day, with oil enema seems a better procedure than waiting for a later movement on the tenth day.

BAD RESULTS IN COLLES'S FRACTURE.

By Lennox G. Têece, M.D., Ch.M. (Sydney),
Honorary Orthopædic Surgeon, Royal Prince Alfred Hospital, Camperdown, Sydney.

In these days when new specialities spring up over night, more and more conditions are being claimed by the ever-increasing army of specialists as their prerogative, but a few diseases and injuries do remain whose treatment must for all time lie chiefly in the hands of the much maligned general practitioner. Amongst these are ambulatory fractures and though their treatment may be a doubtful privilege, the nature of their occurrence, sudden and demanding immediate attention, will always place the majority of them in the hands of the general practitioner.

Colles's fracture ranks high in the list of the more common fractures of the upper extremity; its successful treatment is easy and the excellence or otherwise of the end result is apparent not only to the patient himself, but to the solicitous circle

of his acquaintances. Therefore, one would suppose that good results would be universal not only in the hands of those who have had special fracture experience, but also amongst those practitioners who merely handle occasional fractures amidst the diversified daily routine of their work. No special equipment, splints or appliances are required for their treatment; an X-ray examination is not indispensable. There is no reason why the outcome of a case treated at the back of beyond should not be as satisfactory as if it were handled with all the resources of a modern hospital.

Unfortunately, this desirable state of affairs is far from being a fact. No one who has had opportunities of seeing the end results of a large number of widely differing types of fractures treated by a wide variety of men, can fail to observe that there are two groups of common fractures in which the high percentage of bad results is deplorable, namely Pott's fracture and Colles's fracture. Pott's fracture admittedly may be an extremely difficult one to reduce and bad results are often excusable. There is, however, no reason why Colles's fracture, whose treatment requires no special skill or experience, should not give a uniformly excellent result.

An attempt has been made to investigate the reason for the regrettable frequency of bad results in Colles's fracture. At the outset it was apparent that quite a large proportion of these bad results occurred in the practices of men the general average of whose experience and skill was of a high order. This fact seemed to point to the probable explanation: that there existed a false dogma whose general acceptance and practice was responsible and such has proved the case.

Before entering on a consideration of this, it may be as well to summarize briefly what is meant by a Colles's fracture, for some little confusion exists in the use of the term.

Colles's classical description, published in 1814 before the days of X-ray diagnosis, gives an excellent clinical description of the deformity and displacement, but he was in error in naming the site of fracture as 3.75 centimetres (one and a half inches) above the lower end of the radius. In point of fact fractures at this level cannot be relied upon to give the typical Colles deformity. In modern surgery it is Colles's description of the deformity that has been retained in allocating his name to a particular fracture, but it is now recognized that the site of fracture is about 1.9 centimetres (three quarters of an inch) above the lower end of the radius. The displacement and deformity are characteristic and have often been described. To recapitulate briefly, the lower fragment of the radius is displaced backwards, rotated backwards so that its articular surface looks partly backwards as well as distally and rotated outwards and upwards, so that the radial styloid process ascends to as high or higher than the ulnar styloid. The ulnar styloid may be torn off. The classical signs are the well-known dinner-fork deformity, the alteration in level of the styloid process, the disappearance from the dorsum of the normal prominence of the head of the ulna due to the backward displacement of the lower radial fragment, the prominence on the dorsum of the lower radial fragment, the fullness just above the front of the wrist caused by the upper radial fragment and the pushing forward of the tendons. Difficulty is seldom experienced in the diagnosis of the fracture. Impaction of the fragments is undoubtedly present in a very high percentage of the cases, though some authorities allege that it is less frequent than is usually believed and ascribe the absence of crepitus to muscle spasm locking the fragments together.

In every case in which there has been an unsatisfactory termination, it will be noticed that the typical deformity is still in existence, that is to say reduction has never been carried out. As reduction is usually such a simple procedure frequent failure to reduce argues a general adoption of inefficient methods.

It is common experience that any method of treatment, provided that it possess the seal of antiquity and the *imprimatur* of a great name, however inefficient it may be, can yet survive the onslaught of more scientific and rational procedures. Witness the supremacy which the long Liston splint enjoyed in the treatment of fractures of the femur for many years. Though the Thomas splint had been employed by the Liverpool school of orthopædic surgeons for many years, not even the influence of Sir Robert Jones had managed to secure its general adoption by the London surgeons. It needed the cataclysmic upheaval of the great war to reveal finally the true uselessness of the long Liston and to consign it to a merited but tardy oblivion and to have it replaced not alone by the Thomas, but also by other efficient substitutes. These were not inventions of the war, but had been in constant use for many years by those who appreciated their efficiency.

So too in the reduction of Colles's fracture, Colles's method of reduction published in 1814 has been faithfully copied and taught from generation to generation and it is adherence to this that has resulted in the countless number of unreduced Colles's fractures. Colles says:

> If the surgeon lock his hand in that of the patient and make extension even with a moderate force he restores the limb to its natural form.

Later on he states:

> Let the surgeon apply the fingers of one hand to the seat of the suspected fracture and locking the other hand in that of the patient make a moderate extension until he observes the limb restored to its natural form. As soon as this is effected let him move the patient's hand backwards and forwards and he will at every such attempt be sensible of a yielding of the fractured ends of the bone and this to such a degree as must remove all doubt from his mind.

These statements of Colles can only be true of the small proportion of Colles's fractures in which there is no impaction. They are quite misleading when we are dealing with a typical impacted fracture. In such a case traction neither restores the normal alignment nor does it permit the elicitation of crepitus.

I have been interested to ascertain the methods of reduction laid down in the principal standard text-books on surgery that are usually put into

students' hands. Rose and Carless, Thompson and Miles and Russell Howard all three advocate the inefficient method of pulling on the hand. Further, in the first two of these books no mention is made of any other method. It cannot be too strongly insisted that the only sure method of undoing impaction in a Colles's fracture is to apply force directly to the lower fragment. Jones has described an excellent method of doing this, but his method requires considerable practice to acquire the necessary knack and is not likely to be mastered by anyone who only treats occasional cases of this fracture. A certain method that is effective in any hands, is as follows: With one hand grasp the forearm firmly immediately above the site of fracture, seize the lower fragment between the index finger and thumb of the other hand, the index finger being on the dorsal aspect of the fragment, then bend the part over your knee till the impaction gives way. This method will never fail in recent cases, but in fractures of some weeks' standing it may be necessary to employ a Thomas's wrench to secure sufficient force. Once impaction is undone, the fragments are readily manipulated into position. There can be no room for doubt in the mind of the surgeon as to whether the impaction has been broken down, for when this has been done the fragments can very readily be moved on one another and unmistakable crepitus elicited. The choice of splints is unimportant, for the possibility of redisplacement is minimal. It is of advantage to commence immediate massage and movement of the wrist and fingers, removing the posterior splint only for this purpose. Movements of pronation and supination can be commenced within seven days and after this time both splints removed for massage. Generally they can be entirely discarded at the end of two weeks, a sling only being retained for another week. After this time the hand should be strong enough for everything except heavy manual labour.

An equally good final result can be obtained by not removing the splints at all for three weeks and there is something to be said for this course, if the competency of the massage treatment available is not above suspicion. It will, however, be a fatal policy to pursue unless accurate reduction has first been secured, for the whole secret of success depends on this.

Inefficient treatment of this fracture results usually in limitation of function in three directions: (i.) Limitation of dorsiflexion of the wrist, due not to bony deformity which would tend to limit flexion, but to contracture of the flexor tendons; (ii.) limitation of supination; (iii.) stiffness of the fingers in extension, especially at the metacarpophalangeal joints. The liability to these limitations increases with the age of the patient and is especially great after the age of forty to forty-five. It is possible to get a good functional result in spite of failure to undo the impaction, though the appearance of the wrist in these cases is far from gratifying. The best results in unreduced impacted Colles's fractures occur in those patients who have been unaware of the existence of the fracture, have imagined it to be a sprain, have never sought medical advice and have accordingly never been put on splints, but have used and moved the part to the best of their ability from the very first. The worst results occur in those cases in which the surgeon in spite of considerable, but misapplied effort, fails to undo the impaction. If he be unacquainted with the certainty with which he can recognize the fact when the impaction is undone, he may even wrongly believe that he has undone it. Even so the most casual examination at the end of his manipulation will show that there is no tendency for the fragments to move on one another. What then is the object of the immobilization he adopts? For he puts on and keeps on for three or four weeks long anterior and posterior splints, thus allowing the fingers and wrist to grow stiff. The result is that it is many months before even moderate function is restored to the hand. Indeed in the aged, provided the deformity be slight, some surgeons prefer to make no attempt to undo the impaction, but in such circumstances they would never dream of employing splints. One is forced to the conclusion that the bad results so often seen in Colles's fracture have their origin in the misleading instructions contained in the majority of the standard text-books on surgery to undo the impaction by pulling on the hand.

Summary.

1. Bad results in the treatment of Colles's fracture occur with unjustifiable frequency.

2. They are due to failure to undo the impaction of the fragments and are accentuated by prolonged immobilization.

3. Disimpaction should be brought about by force applied directly to the fragments. It should never be attempted by pulling on the hand.

4. There can be no room for doubt as to whether the impaction has been undone.

5. Even if the impaction be unreduced, a good functional result can sometimes be obtained provided that no immobilization be practised.

Reports of Cases.

RUPTURE OF PREGNANT UTERUS AND ITS DIAGNOSIS.[1]

By J. L. T. Isbister, M.B., B.S. (Adelaide),
Honorary Gynæcological Surgeon, Royal North Shore Hospital, Sydney.

There is an old saying that it is easy to be wise afterwards and how often do we experience the truth of this when we look back and reconsider events after the labour is over.

We often regret not having taken a different line in a difficult case, but we must recognize that it will always be so.

How very often are we wrong in our estimate of the pelvic diameters and of the relative size of the head, so much so that at times we feel in a state of despair.

[1] Read at a meeting of the Section of Obstetrics and Gynæcology of the New South Wales Branch of the British Medical Association on December 18, 1924.

What promises to be an easy labour turns out difficult and *vice versa*. And so, too, it seems, looking backwards, as if we were slow to recognize the onset of serious complications of labour, such as rupture of the pregnant uterus.

Let us then consider two such cases. The first is an abnormal and interesting case due to overdistension of the uterus by a twin pregnancy and acute hydramnios. The second is associated with *placenta prævia* and a very interesting case also.

To consider the latter one first; it belongs to a type we have all seen and yet it is not quite the usual variety.

The patient was a strong, healthy woman of thirty-four years with one child aged four years and a history of a miscarriage a year previously. A month before labour she had a heavy hæmorrhage and *placenta prævia* was diagnosed. The doctor watched her carefully for a while and finally advised a Cæsarean section. This suggestion was refused by the wife and the husband. He then decided to induce labour, but this is easier said than done. After trying to put in a de Ribes bag, he pulled down a leg, but apparently the cord prolapsed also and it was found to be pulseless. He then delivered the patient of a dead child with a *placenta prævia* and with total absence of pains. That is a condition of which I have very little knowledge. It was two whole days before any pains started and they were moderately strong. Then followed much difficulty with the aftercoming head and it was probably at this time that the rupture of the uterus occurred but it was undiagnosed. He thought that there was a deep cervical tear only. There was some collapse, but the patient quickly recovered herself in a couple of hours. The following day rupture was suspected and with the aid of an anæsthetic it was easy to find it, as there was a vertical tear ten to twelve and a half centimetres long into the peritoneum. This rapid recovery of the patient for a time seems to be remarkable, especially with so large a tear. It has been said by a good authority that a ruptured uterus does not contract, but this uterus was contracted and I have noticed the same in two other cases also. The condition of the patient on the following day was bad and I sutured the tear only, as to do more was impossible. She died on the third day of pneumonia and not of hæmorrhage or peritonitis.

The points to be emphasized are the temporary recovery from a state of collapse and the contracted condition of the uterus following on the rupture as well as on the following day.

The second case of rupture of the uterus is a little unusual. It was spontaneous and I can find very little literature bearing on it. It occurred spontaneously in a twin pregnancy with acute hydramnios. The patient, a young woman, was seven and a half months pregnant and had become rapidly stouter. She had a collapse with some abdominal pains, but apparently no labour pains; the history is not very clear as to the nature of the pains. She recovered herself and was so well that she took a warm bath. The following day she collapsed again and had some pain in the abdomen. Personally, I thought she had concealed accidental hæmorrhage. In reality she had intra-peritoneal hæmorrhage with a small vertical rupture of the uterus low down on the left side. Berkeley and Bonney speak of this possibility of mistaken diagnosis and into this error I fell.

Without going into details, a Cæsarean section was done and the uterus was found to be ruptured. There was a vertical slit 5 to 6.25 centimetres long at the back and to the left side. Would it have become larger under the influence of labour? I think it would. The walls of the uterus were very thin. The amount of blood in the abdominal cavity was not very large. The patient recovered.

The points to be noted are the spontaneous rupture of the uterus due to overdistension by a twin pregnancy and hydramnios. The patient was stouter than a woman at a full term pregnancy, although the period was only seven and a half months.

The second point of interest is that she collapsed and recovered and was so well that she took a warm bath.

Both patients would, of course, have been better to have had their operations a day sooner. This probably they would have had, had the rupture been diagnosed.

And so it seems that the condition of rupture is not always very evident. How often the idea of a ruptured uterus crosses one's mind after a difficult labour with a semi-collapsed patient suffering from a certain amount of shock. Perhaps there is a peritoneal tear more often than we suspect. I remember in my earlier days seeing a ruptured uterus and failing to diagnose it. Quite recently I saw a rupture of the uterus no larger than the size of the ring finger and yet the examining hand missed it. The doctor assured me he searched carefully and yet he missed the hole. It was excusable, but the patient died of heavy peritoneal hæmorrhage.

Just to repeat myself:

1. A ruptured uterus can contract to the size of an unruptured uterus.

2. The initial shock is heavy, but the patient can so recover that one is deceived by the quiet pulse and apparent well being of the patient for a while.

3. Even a careful digital examination may not disclose the rupture.

4. It needs very careful consideration indeed to decide whether there be a rupture and if so whether there is to be an operation or not.

The condition is so often confused and obscured by other accompanying causes, such as a long and difficult labour or hæmorrhage with the placenta. It makes us feel our responsibilities to have to decide one way or the other, especially when we realize that the patient is often so ill that we feel that she has very little to spare and that even a rapid operation may be more than she can stand.

TWO CASES OF SPONTANEOUS RUPTURE OF UTERUS.[1]

By H. Z. Throsby, M.B. (Sydney),
Honorary Assistant Gynæcological Surgeon, Royal North Shore Hospital, Sydney.

The two cases which I wish to report, occurred in general practice and illustrate the fact that rupture can occur without any manual or instrumental interference, though in one of them the condition was in all probability due to the improper use of "Pituitrin."

As is usual in these cases, both patients were *multiparæ* and in both there was evidence of weakness of the uterine walls.

Case I.

The first case was that of a previously healthy woman of thirty-eight years of age. She had had five children and her previous confinements had been normal. She had been quite well up to a week prior to her expected date. I had seen her three weeks previously and had noted that her urine contained no albumin and that the position of the child was left occipito-anterior.

A week before labour was due I was sent for in the early hours of the morning. I found the patient complaining of severe abdominal pain not localized to any particular part of the abdomen. There was no vomiting, no rigidity of abdominal muscles and no tenderness to pressure. The temperature was normal and the pulse rate eighty. Her face was not anxious. There was no sign of labour and as she had had a loose action of the bowels earlier in the night, I thought the abdominal pains might be due to some indigestible food. I gave her 0.0075 gramme (one eighth of a grain) of morphine by hypodermic injection.

The next day I visited her and found her to all appearances perfectly well. Her pain had disappeared entirely and there were no abdominal signs of trouble. The uterine movements were strong and the child was lying in left occipito-anterior position.

[1] Read at a meeting of the Section of Obstetrics and Gynæcology of the New South Wales Branch of the British Medical Association on December 18, 1924.

I did not see her again for five days and during this interval she had been well and walking about. Again I was summoned for urgent pain and found her evidently suffering severely, though her pulse rate was eighty. She had not vomited and she manifested no signs of collapse; her colour and facial appearance were good. She had no rigidity of abdominal muscles, but at once it was noticed that the position of the child as diagnosed by abdominal palpation had materially altered and the fœtal parts could not be plainly felt through the abdominal wall. There was also a puzzling condition in the lower part of the abdomen, where it seemed that there were two masses resembling the fœtal head. On vaginal examination, the *os uteri* was undilated and would only admit one finger and a mass was detected through the *os* which felt softer than the head and which was difficult to reach with the finger, being obviously much higher up than the normal head at this stage of pregnancy.

The patient was moved by ambulance to a private hospital and my friend, Dr. Isbister, saw her with me. There was still no sign of shock or collapse. The pulse rate was eighty, the patient had not vomited and her colour was still good. She was given an anæsthetic and both of us re-examined her and found no further sign to guide us to the real condition. The *os*, however, was felt to be unusually tight and resistant to the finger, especially so for a *multipara*. The mass felt through the *os* was still puzzling, but as the general condition of the patient was so good it was thought that dilatation by means of de Ribes bag and subsequent exploration of the uterus would be advisable. A bag was accordingly introduced, distended with water and a small weight was attached to the bag by means of extension apparatus in order to try and hasten dilatation. At the end of four hours the patient was seen again by both of us. No labour pains had occurred, but the condition of the patient was not so good. She had vomited twice and her pulse reached ninety-eight. Still there were no signs of definite shock or hæmorrhage. The de Ribes bag was removed and it was found that practically no dilatation of the *os* had occurred and that it was still more or less hard and resistant.

As the patient was not so well and there seemed no possibility of being able to dilate the *os*, an abdominal section was decided upon and this was done shortly afterwards.

The child was found in the abdominal cavity, there was not an excessive amount of blood in the peritoneal cavity. There was a transverse rent in the posterior wall of the uterus across the site of a medium sized intra-mural myoma. The puzzling mass that could be felt through the *os* was the tightly contracted body of the uterus. The rent in the uterine wall was sutured by mattress stitches of chromicized catgut followed by a continuous catgut Lembert suture. The patient was sterilized by excision of the tubes as it was felt that in view of the myomatous uterine wall another pregnancy might have the same results. Probably a sub-total hysterectomy would have been a better procedure, as it would have done away with any future trouble by the myoma.

The patient recovered without causing me any anxiety and was well some two years afterwards.

The points that strike one about this case are:

1. The preliminary symptoms five days before actual rupture took place make it likely that the first attack of pain must have been due to partial rupture and consequent flow of blood into the peritoneal cavity.
2. The absence of shock and of signs of internal hæmorrhage when rupture must have undoubtedly occurred, was truly remarkable. This absence of signs of such a catastrophe as rupture of the uterus deceived us in no small manner.
3. The second mass in the pelvis which resembled the fœtal head and which was in reality the tightly contracted body of the uterus, was very puzzling.

Case II.

The second case conformed more to the classical type of uterine rupture in so far that the patient exhibited all the dreadful signs of profound shock and hæmorrhage. She was a woman who had borne six children without any complications and her labours had nearly all been rather rapid.

Labour began at about full time and the position of the child was left occipito-anterior. The first stage of labour was rather slow, as the pains were slight and infrequent. After several hours I examined the patient and found the head low in the pelvis, a moderately large bag of membranes and the *os* soft and dilatable and about the size of half a crown. I thought it a case which might terminate rapidly at any time. However, four hours afterwards the matron of the nursing home telephoned me that the pains had not increased either in force or frequency, that the *os* was three parts dilated and that the membranes had not ruptured. Here is when I made the mistake. I told the nurse to give the patient one cubic centimetre of "Pituitrin" and to let me know at once if the pains increased in force. I fully expected that, once second stage pains commenced, the labour would end quickly.

Shortly afterwards I was urgently summoned by the nurse, who stated that almost immediately after giving the "Pituitrin" the patient had an agonizing pain and at once collapsed. When I saw her she was pallid and almost pulseless, the abdominal muscles were rigid and, as before, the fœtal parts could not be felt distinctly by abdominal palpation. On vaginal examination no presenting part could be defined. It was evident that rupture had occurred and Dr. Vallack who kindly saw the patient with me, confirmed this. The patient was hurried to the Royal North Shore Hospital and the abdomen opened at once. My senior, Dr. Read, kindly helped me. The uterus was torn vertically on its posterior aspect from the fundus almost to the vagina. The child and placenta were in the abdominal cavity. As the rent in the uterus was considered to be too large for suture, the uterus was removed sub-totally and the abdomen closed without drainage.

The patient lay between life and death for several days and presented the most severe shock I had ever seen. She was pulseless, had dilated pupils and was fully conscious. Blood transfusion was carried from her husband twice. This was done by my house surgeon, Dr. Murphy, and the Medical Superintendent, Dr. Emma Buckley, and it is due to their untiring care and attention that the patient ultimately recovered.

The removed uterus showed evidence of old chronic metritis and was possibly deficient in muscular tone.

The main point in the case is the misuse of "Pituitrin" which, I have no doubt, was responsible for the catastrophe. The dose was too large in any case, namely one cubic centimetre, but I cannot help feeling that its use before the birth of the child should be, at any rate strictly limited, if not abolished entirely.

In this case the *os* was almost fully dilated in a *multipara* with a normal presentation and a child not evidently over the normal size, yet the uterus ruptured almost immediately after its use and the patient almost lost her life.

A better practice would have been to rupture the membranes or even to have given her quinine. It would have been better still to have adopted a masterly inactivity and to have allowed Nature to finish the job.

As regards the care of the rent in the uterine wall, I think that when the tear is very large and difficult to suture accurately, the better plan is to remove the uterus as time is saved by doing this. Time is everything in such an operation.

GANGRENOUS APPENDICITIS IN AN INFANT OF ELEVEN MONTHS.

By P. L. Hipsley, M.D., Ch.M. (Sydney),
Honorary Surgeon, Royal Alexandra Hospital for Children, Camperdown; Honorary Assistant Surgeon, Royal Hospital for Women, Paddington, Sydney.

A ruptured appendix is sufficiently rare in infants to warrant the report of the following case:

G.T., aged eleven months, was admitted to the Royal Alexandra Hospital for Children on October 22, 1924. The illness commenced five days prior to admission with

vomiting and diarrhœa. The child became feverish soon after the onset and appeared to be in pain. The abdomen gradually became distended, but the vomiting ceased after two days and the child appeared to be more comfortable. A mass could be felt in the right side of the abdomen, occupying the right iliac and lumbar regions. The dulness over the mass was continuous with the liver dulness.

Treatment.

A right rectus incision was made at about the level of the umbilicus. On the peritoneum being opened, thin, blood-stained, foul-smelling pus was evacuated. The abscess extended upwards between the liver and diaphragm and downwards as far as the right iliac fossa. A ruptured gangrenous appendix was found to be the cause.

The child died of general peritonitis twenty-four hours later.

Reviews.

DIPHTHERIA.

By the publication of its monograph on diphtheria, the Medical Research Council has supplied a long felt need.[1] Since the appearance of "The Bacteriology of Diphtheria," by Nuttall and Graham-Smith in 1908, no comprehensive survey of the disease from the scientific aspect has been made and much of the extensive research work of later years has not been available or readily accessible.

In their preface the Bacteriological Committee state that the present monograph has been designed to include the whole scientific basis of knowledge of diphtheria, but not the purely clinical aspects of the disease. While in great measure a critical review of previous work on diphtheria, the monograph also includes original research done under the auspices of the Medical Research Council and for the purpose of filling gaps in the knowledge of the disease.

The work is divided into eleven chapters, each dealing with some special aspect.

Chapter I. is devoted to the history of diphtheria and affords interesting reading to those who are more especially interested in the development of the knowledge of human disease.

In the chapter devoted to the morphology and staining and cultural reactions of the diphtheria bacillus various special stains and selective cultural media are described, but none to replace the common practice carried out in laboratories throughout the world.

Important chapters are devoted to the question of the metabolism of the organism, especially the toxin production, to antitoxin and to the pathology of the disease both in man and animals which are the subject of experiment. While these chapters will interest more especially the serologist and laboratory worker, it is to be acknowledged that they include a comprehensive study of the work that has already been done on these questions and also indicate wherein present-day knowledge is defective.

Of more interest to the clinician will be found the section on the serum treatment of diphtheria. The public health worker will be well advised to read carefully the important chapters on the incidence and spread of diphtheria and on the prevention of diphtheria.

A special chapter is devoted to the classification and identification of diphtheroid organisms and the work concludes with a very full bibliography and index.

In a comprehensive work of this description it is difficult to know what points to select for particular notice. As is perhaps natural in these days of preventive medicine, we turn to the questions concerned in the incidence and spread of the disease. The question of the origin of natural antitoxin in the blood is considered at length, the conclusion formed being that this antitoxin is derived as the result of infection which may be chronic or transient and possibly repeated. The work of Glenny and Sudmersen is highly important in this connexion. These authors showed that a primary stimulus produces only a very slight antitoxic response, but when such a slightly immune animal becomes again infected or experimentally injected, in other words receives a secondary stimulus, a rapid and definite immunity developes.

It is noteworthy in connexion with much of the work that has been done on diphtheria, that proper precautions were unfortunately not taken to prove that the bacilli isolated were true virulent diphtheria bacilli. The authors point out this defect time and again in commenting upon the results of various workers.

Naturally the Schick test and the conclusions to be drawn from its application occupy considerable attention and there can be no question that the widespread use of this test within recent years has thrown light on the disease in many directions.

[1] "Diphtheria: Its Bacteriology, Pathology and Immunology," published by Eight Authors; Published in 1923 for the Medical Research Council of the Privy Council by His Majesty's Stationery Office at Edinburgh; Royal 8vo., pp. 544, with seven coloured plates. Price: 12s. 6d. net.

PNEUMONIA.

In the introductory chapter of a book on pneumonia by the late R. Murray Leslie a concise account of the history of pneumonia is given.[1] He considers lobar pneumonia to be a zymotic disease due to the invasion of the pneumococcus with its principal local manifestation in the lung. Fraenkel isolated this diplococcus and Gamaleia, of the Pasteur Institute, completed the evidence by reproducing the pathological lesions of acute lobar pneumonia by means of cultures of the pneumococcus. Leslie reserves the term lobular or broncho-pneumonia to include those types of pneumonia caused by mixed infection in which the pneumococcus is associated with other bacterial infections. He considers the *Diplococcus pneumoniæ* is ubiquitous and is present generally in the saliva of the healthy, especially those in contact with pneumonia patients and that the occurrence of sporadic and epidemic cases may thus be explained.

In chapter two he gives the ætiology and bacteriology of this disease and describes the four types of pneumococci formulated at the Rockefeller Institute. On page twenty-six he discusses at length the most interesting researches of Dochez and Avery, who found that the pneumococcus throws into the blood of the patient a soluble substance which is possibly responsible for the toxæmia and that this gives a specific precipitant reaction with the anti-pneumococcic serum corresponding in type to the infecting pneumococcus; that when this substance is excreted in the urine, resolution is delayed, so that its amount in the urine serves as an index of the infection; with large amounts the illness is fatal, with its absence the patient recovers. Its presence or otherwise in the urine is of immense importance in prognosis and in the diagnosis of the type of pneumococcus.

Workers at the Rockefeller Institute emphasize the importance of this precipitable substance and Leslie advises further investigation should be made. If verified, the conception of prognosis and diagnosis will be put on a very firm basis.

Pathology, clinical features and symptomatology are well discussed in separate chapters.

The chapter on physical signs is well worth reading and in the one devoted to atypical pneumonia we are pleased to see that Friedländer's pneumonia is discussed. Though pride of place had to be given to the pneumococcus, yet Friedländer's bacillus has to be recognized as one of the most virulent organisms in mixed pneumonia. Charcot called senile pneumonia "the great enemy of old people." Osler benevolently described it as "the friend of the aged," affording an easy and painless death. It is remarkable that he himself died in this way.

[1] "Pneumonia: Its Pathology, Diagnosis, Prognosis and Treatment," by the late R. Murray Leslie, M.A., B.Sc., M.D. Edited and Revised by J. Browning Alexander, M.D., M.R.C.P. (London); 1924. London: William Heinemann (Medical Books), Limited. Demy 8vo., pp. 349. Price: 12s. 6d. net.

Complications and diagnosis are each given a chapter. In the differential diagnosis between apical pneumonia and tuberculosis on page 157 the author gives a characteristic example of the "dramatic turns" which delighted that showy yet sagacious physician William Gull.

The chapter on prognosis ought to be read by every practitioner. The author quotes one of the aphorisms of Gee, one of the ablest physicians of his time, "a prudent man will not attempt to predict the end as to recovery or death."

Under the caption, the general principles of treatment, cardiac stimulants, the much discussed question of alcohol and morphine are given in detail. He considers alcohol as a readily absorbed food and discusses its value as a drug. He gives morphine when indicated in the early stages only and favours the well-known opiate, Dover's powder. In the early stages when the cough is dry, Leslie sometimes uses the bronchitic kettle. Some physicians consider the kettle a relic of the past. Oxygen ought to be given by apparatus early on the first appearance of cyanosis so as to anticipate heart failure.

A chapter each is given to specific drug treatment, specific sera and vaccine therapy. "Optochin" (a derivative of quinine) has been tried in the Rockefeller Institute, but has given no beneficial results. Quinine urea hydrochloride is more favourably mentioned. Sir Leonard Rodgers uses the axillary inuction of creosote with success.

The experience in serum therapy at the Rockefeller Institute suggests that the type of the disease should be determined first and a serum made from each of these, the results are as follows: In cases due to Type I. the serum is most effective. With Type II. the result is doubtful. With Type III. the use is not considered justifiable. With Type IV. it is impossible to prepare a good serum.

The results of vaccine therapy have been supplied by Dr. Wynn, of Birmingham, who has kept complete records of his experience in one hundred cases. Wynn finds that the vaccine given two hours after the onset gives brilliant results, but with each passing hour success is less easily attained. It would appear that Dr. Wynn has been very fortunate in having amenable and far-seeing patients.

We have no hesitation in saying that this book is one of the best, if not the very best on the subject published in English and ought to find an honoured place in the bookshelves of every consultant and lecturer in medicine. To aspiring men who intend to work for the degree of doctor of medicine it will be found pregnant with original thoughts.

MODERN THERAPY.

In the preface to his volume on modern methods of treatment, Dr. Logan Clendenning lays much stress on "the establishment of a definite teacher of therapeutics" in medical schools and says that in the course of an hour's visit to the wards of a hospital sufficient time is not left for a consideration of treatment.[1] Many clinical teachers holds that treatment is best taught in conjunction with symptomatology, pathology and diagnosis, but still there is room for a treatize on the principles of therapeutics and on the details of methods of treatment. This volume contains much that is of interest and value. It consists of two divisions. The first deals with general therapeutic methods used in treatment and the second with special therapeutics, the application of therapeutics to particular diseases. Dr. Clendenning has had the assistance of several medical men in dealing with various branches of therapeutics, but he alone is responsible for the greater part of the book.

After a short chapter on the value of rest, especially rest in bed, which the author says will do more for many diseases than any single procedure, Dr. Clendenning deals with drug therapeutics. Following Osler, he rightly advises that the practitioner should concentrate his attention on the study of the great drugs of proved value, ten or twelve in number. He gives a very interesting historical account of the introduction and improvement in the therapeutic use of certain of these drugs, such as quinine, digitalis and "Arsphenamine" and in most cases he gives the exact methods of administration by mouth and otherwise. On the whole his teaching as to the use of drugs is sound and sensible.

The section on biological therapy and prophylaxis is devoted to the use of sera and vaccines and also to the question of protein therapy. Attention is drawn to the extravagant claim sometimes made by the proprietors of patented drugs and a guarded opinion is given as to the therapeutic efficacy of many of them in treatment.

A similar wise and cautious attitude is shown in the next section in regard to treatment by extracts of the ductless glands. It is said that the practitioner who begins to use these glandular products with great enthusiasm, has in store for himself many disappointments. At the same time due acknowledgement is made of the value of thyreoid and pituitary extracts.

Much space is devoted to dietetics, especially infant feeding, the physiology of digestion being considered at some length. It is, however, not quite in accordance with British teaching to say that the stomach is nearly always empty in six to eight hours after a meal and that intestinal contents appear at the ileo-caecal valve in about two hours, that is to say if the progress of a barium meal through the digestive tract is to be regarded as evidence of normal gastric and intestinal motility. Sample diets are given for various pathological conditions, such as obesity, gastro-intestinal diseases, nephritis and cardiac decompensation and these should be very useful to the practitioner.

Other chapters are devoted to heat and cold, medical gymnastics and massage, exercise, electro-therapeutics, radio-therapy, climate, heliotherapy and psycho-therapy. The article dealing with the last named is especially good and full of common sense. A description is given of several miscellaneous procedures, such as blood transfusion, venesection, thoracentesis, paracentesis, artificial pneumothorax and sigmoidoscopy in such a way as to make it easy for the practitioner to perform them.

In the latter part of the book the author gives the application of therapeutics to particular diseases. In some instances the treatment advised is not such as is usually adopted in Australia. For example, the author advocates the "Moloney" treatment of *tabes dorsalis* (the principal points in which are the cultivation of relaxation and the blindfolding of the patient during exercise), the use of cacodylate of soda in pericardial effusion and the application of general massage in pneumonia. The omission of a chapter dealing with diseases of the nervous system is notable.

Typographical errors are not rare and in some instances the English is not beyond reproach. Still, on the whole there is much that is interesting and profitable in the volume and with careful revision subsequent editions are likely to commmend themselves to the practitioner.

[1] "Modern Methods of Treatment," by Logan Clendenning, M.D., with Chapters on Special Subjects by various authors; 1924. St. Louis: The C. V. Mosby Company; Royal 8vo., pp. 692, illustrated. Price: $9.00.

ANÆSTHESIA.

Dr. Stuart Ross's book on anæsthetics is in convenient form, well printed and well supplied with useful diagrams.[1] The author states that "the book is an attempt to present to the student and practitioner a condensed account of modern anæsthetic views and practice." Within limits he has done well. Intratracheal anæsthesia is well described, but little stress is laid on possible dangers of and complications after the method. Local anæsthesia, including spinal and sacral anæsthesia, is clearly described.

The book can be commended to students and practitioners as a useful guide in their anæsthetic work.

[1] "Handbook of Anæsthetics," by J. Stuart Ross, M.B., Ch.B., F.R.C.S.E.; Second Edition; 1923. Edinburgh: E. and S. Livingstone; Crown 8vo., pp. 344, with 71 illustrations. Price: 8s. net.

The Medical Journal of Australia

SATURDAY, FEBRUARY 28, 1925.

Coordinated Effort.

For many years the attention of the readers of this journal has been directed to the anomaly that the task of attacking disease is placed in the hands of seven different authorities in the Commonwealth, each of which is required to administer a distinct act of parliament and each of which adopts a special method. The prevention of disease, even under favourable conditions, is always difficult. In Australia, a vast continent with but six million inhabitants distributed unevenly, the problem has many special difficulties and complexities. At the same time some of the formidable tasks connected with overcrowding, extreme poverty, severe climatic conditions in winter and limitation of sunlight which add to the burden in Europe, are either absent or relatively rare in Australia.

During the past two years the Federal Committee of the British Medical Association in Australia has had under consideration the question of the cooperation of the medical profession with the Department of Health of the Commonwealth. In February last a report drawn up with much skill and after careful inquiry by Dr. F. S. Hone and Dr. H. S. Newland was presented to the Committee and was referred to the Branches of the Association in Australia for consideration. At the same time the Branches were asked to make suggestions for the improvement of the existing public health acts in the several States. At the meeting of the Federal Committee on July 16, 1924, the replies from the Branches were considered. In effect the Branches agreed with the principles on which the recommendations were based. No material or fundamental alteration was suggested. The report was referred back to its authors for the incorporation of certain emendations. On February 5, 1925, the Federal Committee adopted the recommendations which are now to be regarded as the declared policy of the British Medical Association in Australia.

In the meantime the Royal Commission on Public Health has been appointed and is inquiring into the whole question of the measures to be taken to improve the health conditions of the people of Australia. It must not be assumed because Sir George Syme is chairman of the Royal Commission and of the Federal Committee, because Dr. R. H. Todd is a member of the Royal Commission and a member and honorary secretary of the Federal Committee and because Dr. F. S. Hone is a member of the Royal Commission and as a former member of the Federal Committee was one of the authors of the report, that the Royal Commission is necessarily committed to the adoption of the views contained in the report. The Commissioners have much evidence to collect and many things to examine and until they are possessed of full information, they will not be wedded to any particular views. But it is significant that three of the Commissioners have taken part in the formulation and adoption of the policy of the Association in this particular connexion.

The proposals embodied in the Hone-Newland report may be summarized briefly. It is essential to recognize that the suggested machinery is built on the present constitutional relations of the Commonwealth and the States. In the report Dr. Hone and Dr. Newland point out that "it is impossible to bring in any complete Commonwealth control of public health administration without a profound change in the constitution and that under present conditions this is impracticable." Whether it will be possible to attain ideal measures of preventive medicine under seven distinct and independent statutory authorities need not be discussed at present. All that is necessary now is to realize that a compromise has to be effected on account of this constitutional difficulty.

The suggested service is divided into two parts, the administrative and the medical units. The former is again divided into two parts, the Commonwealth and the State organizations. The Director-General of Health would be in control of an important organization including experts in marine hygiene, in tropical hygiene, in epidemiology, in industrial hygiene, in sanitary engineering, in

school hygiene, in animal hygiene and other branches of hygiene. Apart from the officers of the special branches of the department, such as the quarantine and laboratory branches, there would be the chief Commonwealth health officers of the States or divisions whose duties might include the coordination of the various activities in support of which the Commonwealth Government would contribute subsidies.

The State organization would comprise the chief State health officers and whole-time district health officers. This portion of the service would be controlled by a council in each State, having for its members the chief State health officer, the chief Commonwealth health officer, representatives of the practising medical profession and possibly a representative of school or mental hygiene. This council would have the advice of experts in sanitary engineering, skilled veterinary officers and certain administrative officials. The district medical officers of health would work under local authorities or a combination of local authorities. The authors of the report have not attacked the problem of the relations of the local authority with the central health authority nor has the question of the detailed machinery for the administration of the State enactments come within their purview. The linking up of the Federal with the State organization through the State health councils, however, gives some indication of the endeavour to introduce uniformity into the control of the public health administration of Australia.

The medical unit would be the general practitioner or specialist. He would be required to carry out certain defined duties, such as the notification of births and still-births, of deaths, of infective diseases declared to be notifiable and of certain poisonings, the ordering of prescribed methods of disinfection in connexion with persons who have suffered from certain infective diseases, the tracing of infection in carriers and contacts, the examination of school children under special conditions and the carrying out of such other functions as may be prescribed by regulation or as may be required by the district health officer. The practitioner thus forms the last link between the central authority and the public.

It would be premature to discuss the report as the basis for a scheme for the better prevention of disease. The Royal Commission must investigate all the main and subsidiary issues before any recommendations can be made with propriety and safety. That the practising part of the medical profession is an essential factor in any sound plan of campaign aiming at the reduction and control of ill-health, disease and physical deterioration can scarcely be questioned. But the coordination of effort should not be limited to the inclusion of the general practitioner. The authors of the report and the Federal Committee have manifested wisdom in forging a chain from the individual member of the community, through the general practitioner, the district health officer, the State health officer, the State health council and the Commonwealth chief health officer in the State or division to the Director-General of Health. In this way and in this way alone can disease be attacked with a reasonable prospect of success.

Current Comment.

THE DIABETES PROBLEM.

During the past few years much attention has been paid to the clinical manifestations, the pathological changes and the biological characters of the disease *diabetes mellitus*. An immense amount of experimental work has been carried out and many facts have been discovered. But in spite of all this the ætiology of the disease is not yet understood. It has long been known that diabetes is essentially the result of a lesion of the pancreas. Pavy recognized the possibility of a disturbance of sugar metabolism based on a pancreatic lesion, although he adhered to the hepatogenetic hypothesis. Minkowski was probably the first to prove that the removal of the pancreas in animals led to glycosuria which could be prevented by the grafting of a portion of the excised gland outside the peritoneal cavity. Allen has more recently studied the relation of glycosuria to deprivation of a portion of pancreas and has endeavoured to determine the exact site of the damage found in diabetes and its nature. It is assumed that the loss of functional activity of the beta cells of the islands of Langerhans, described in 1900 by Schultze, is caused by a previous inflammatory affection. Allen found that hydropic degeneration was the commonest change in the islands of Langerhans, although at times fibrosis, fatty infiltration or true atrophy was encountered. The investigations of Banting, Best and their collaborators do not illuminate the early or essential lesions and therefore have little signi-

ficance for the question at issue. However useful treatment may be for the individual, if it does not repair the essential lesion or destroy the causative agent, it cannot materially lessen the incidence of the disease.

Dr. Haven Emerson and Dr. Louise D. Larimore have applied statistical methods in the study of diabetes and have discovered some facts which throw indirect light on the problem.[1] In the first place they have examined the evidence in connexion with the increase in the incidence and mortality of diabetes. In New York one death from diabetes occurred to 2,437 deaths from all causes in 1866. In 1923 to each death from diabetes there were fifty-one from all causes. This relative increase in the number of deaths from diabetes stands in striking contrast with the reduction in the number of deaths from tuberculosis. During the period of the influenza epidemic (1898 to 1901) the death rate from diabetes fell suddenly and then rose abruptly. In the period from 1916 to 1917 the increase in the death rate was interrupted. This period corresponded with the interference and limitation of the food supply of the population. The authors have formed the opinion that many of the middle-aged people who died of influenza during the first of this period, would have died of diabetes had there been no epidemic. A closer analysis revealed that the increase affected males and females over the age of thirty-five years, but was greater among women than among men. This coincides with the well-known greater prevalence of diabetes among women than among men. Similarly it was found that just as diabetes is extremely common in Jewish people and rare among the negro races of North America, so the increase in the diabetes death rate during recent years has been relatively great among persons of Semitic origin and relatively small among negro. The statistical inquiry further substantiated the impression that diabetes is relatively rare among those engaged in hard manual labour and common among those of sedentary occupation. It appears that there is a definite seasonal variation in the death rates from diabetes. Death from this disease is considerably more frequent in winter than in summer. The authors have not sufficient information to enable them to determine whether this variation is due to the effect of meteorological conditions or to the greater prevalence of infective processes which tend to interfere with nutrition and resistance. The variation in the death rate from diabetes in the different parts of the United States of America appears to be explicable rather on the basis of age grouping, race, economic status and occupation of the people than on that of a direct geographic incidence.

Some highly interesting and not unimportant figures are given in regard to the changes in the food consumption in the United States during the past fifteen years. The average amount of meat consumed per person in the year has fallen from one hundred and seventy-nine pounds to one hundred and fifty-five pounds. During the same period the amount of cereals, sugar, milk and fruits has increased. The increase in the consumption of sugar is shown to follow somewhat closely the increase in the diabetes death rate in the United States. In the United Kingdom the sugar consumption has undergone an irregular variation since 1890 and fell abruptly during the war period. Since 1917 there has been a definite rise, but the level still remains much below that of the pre-war period. The deaths from diabetes increased in number from about 6.5 per 100,000 of population in 1890 to 13.2 in 1916. Since that date it has fallen to 10.0 in 1920, to rise slightly in 1921. The consumption of sugar in France was low before the war and showed two distinct periods of reduction during and since the war. The death rate from diabetes was high in 1890, rose up to 1910 and then fell in stages up to 1919. While these figures indicate that an increase in the *per capita* consumption of sugar does not in itself lead to a rise in the diabetes death rate, it would seem that this increased ingestion of sugar is an indication of a tendency on the part of the people to take more food than is required to cover their expenditure of energy.

Dr. Emerson deals briefly with the coincidence of the general application of the "Insulin" treatment of diabetes and an apparent arrest in the increase of the death rate from the disease. He recognizes that the increase in the death rate has been interrupted twice since 1866. He is not prepared to ascribe this to the use of "Insulin."

It has been shown that the increased frequency and increased mortality of diabetes is not singular. Similar increases have been noted in regard to Graves's disease and to Addison's disease. As far as is known none of the three diseases is an infective process. In all the disturbance appears to be focussed in glands of internal secretion. In all there appears to be a nervous element in the ætiology. The statistical inquiry of Dr. Emerson seems to reveal a high incidence and mortality of diabetes in persons who take little exercise, who indulge in diets excessively rich in carbo-hydrates and fats, who manifest a tendency to obesity and who are engaged in occupations entailing heavy responsibilities and so-called worries. How can these facts be reconciled with the discovery of a past inflammatory lesion of the islands of Langerhans?

It is possible that the cause of the initial lesion is very common, that the degenerative changes occur chiefly in the presence of an extra load on the carbo-hydrate metabolism and that repair of the beta cells can be effected, provided that an excessive intake of carbo-hydrate and fat is avoided and muscular activity suffices to keep the blood sugar concentration well within the normal range. It is certain that damage to the pancreas can be prevented by an avoidance of a high blood sugar concentration. In order to fathom these matters, it is necessary to investigate the beginnings of the disease and to ascertain the origin and nature of the initial inflammatory lesion of the pancreas. Until this has been elucidated, it remains pure speculation to find a hypothesis for the recent increase in the diabetes death rate.

[1] *Archives of Internal Medicine*, November 15, 1924.

Abstracts from Current Medical Literature.

GYNÆCOLOGY AND OBSTETRICS.

The Action of Cerebro-Spinal Fluid on Uterine Muscle.

A. MAYER (*Klinische Wochenschrift*, September 30, 1924) has been studying for some time whether the substance in the pituitary gland causing labour pains can be found in the cerebro-spinal fluid. Cerebro-spinal fluid was collected from patients with good pains and injected intravenously into those with feeble or lack of pains. Out of ten attempts failure to produce good contractions occurred twice. From animal experiments cerebro-spinal fluid and extracts of pituitary gland gave equally good results. In animals fluid obtained by puncture of the fourth ventricle gave better results than from other parts of the cerebro-spinal system. Human fluid from the vertebral canal was much less potent and this difference may have been due to the presence or absence of pregnancy. The fluid from non-pregnant women failed on almost every occasion to induce uterine contractions. The best results were obtained from women at term and in strong labour. Experiments are being made to determine whether intradural injections have any better results than those given intravenously.

Five Children at One Birth.

L. FRAENKEL (*Klinische Wochenschrift*, September 30, 1924) gives an account of a case of multiple pregnancy. The grandmother of the patient had four children at one time. The patient was a *multipara* with two children. Owing to a severe fright she fell into labour and was delivered of four children about forty centimetres in length and two kilograms in weight each. Eight days later she got up, though not feeling well and had a severe hæmorrhage. In the clots was found a fifth fœtus, thirty centimetres long, perfectly fresh and with its own placenta. There had been a common placenta for the other four. The latter thrived well and though three died in childhood, the fourth had become a strong lad of seventeen. The mother had married again and had one child by the second husband. It was impossible to be sure whether the fifth fœtus was an example of superfœtation or not.

Anæsthesia in Obstetrics.

H. PEHAM (*Wiener Medizinische Wochenschrift*, June 28, 1924) gives an historical survey of the drugs used for anæsthesia in labour. Chloroform inhibits contraction of the uterus and if given over a long period may cause severe atonic *post partum* hæmorrhage. With ether there is less risk of atony. Rectal anæsthesia produced by ether in oil is frequently of great value. Gas and oxygen have been successfully employed in many instances with a shortening of labour. The latest drug, "Narcylene," is a derivative of acetylene and is analogous to nitrous oxide in its action. Its use is restricted because of the apparatus required and the cost of the drug itself. Lumbar anæsthesia is not easy owing to the difficulty of obtaining sufficient flexion of the spine in women at term. Sacral anæsthesia with 1% "Novocain" and adrenalin solution will render the second stage painless. Para-vertebral and para-sacral anæsthesia have only a limited scope as the vulva and perineum alone are rendered anæsthetic. Scopolamine-morphine narcosis has been widely used. It is, however, uncertain in action as a general anæsthetic is frequently required in addition, whilst the fœtal mortality is rather high. Hypnosis has recently been revived, but its use is restricted to those skilled in that work. The author prefers for the first stage morphine 0.01 gramme to 0.015 gramme. There is no ill effect on the child or on the character of the contractions. In the second stage chloroform *à la reine*, ether, chloroform and ether mixture or ethyl chloride when the head is on the perineum, give the best results. For perineal repair the use of ten to fifteen cubic centimetres of an 0.5% solution of "Novocain" is sufficient. Naturally for any operative work full narcosis with ether or chloroform is necessary.

Birth Injuries.

A. STERN AND P. SCHWARTZ (*Klinische Wochenschrift*, May 20, 1924) give a record of one hundred babies which were observed from birth until the tenth day. The anatomical changes occurring after severe labour were œdema and hæmorrhage in the scalp and congestion and hæmorrhage in the diploe, *dura mater*, tentorium, *pia mater* and venous vessels of the cerebrum. The most constant symptom observed was nystagmus. In the majority it was spontaneous in onset; in others it was induced by pressing the head to one side. The nystagmus was horizontal and bilateral; in four instances only was it vertical. In forty-four apparently normal children only one third had no nystagmus. Twenty out of twenty-four babies whose mothers suffered from pelvic contraction and eleven babies in whose birth malpresentation occurred, all manifested the condition. There was a definite connexion between the amount of head moulding and the nystagmus, whilst the length of the second stage also played an important part in the onset of the symptom. In regard to Cæsarean section in four instances in which operation was carried out before labour, no *caput succedaneum* and no nystagmus were found. In four instances in which operation was undertaken at varying intervals after labour had begun, these changes were found. In two with intact membranes at the time of operation there were a *caput succedaneum* and nystagmus. This shows that typical damage to the brain may occur before rupture of the membranes. In all instances the nystagmus was most noticeable on the first day and gradually diminished and disappeared at the end of the first week.

Healing of Cervical Erosions by the Use of Cervical Caps.

J. NOVAK (*Wiener Medizinische Wochenschrift*, November 15, 1924) mentions that, following the widespread use of metal caps as contraconceptional measures, it has been noted that cervical erosions heal very rapidly. So long as the cervix remains in contact with the acid secretion of the vagina and its alkaline secretion is neutralized by the former, no erosion formation occurs. But if there be a profuse alkaline secretion which cannot be fully neutralized, the erosion rapidly grows. Examination of the contents of the capsule showed that in twenty-three cases out of thirty there was a definitely acid reaction, in four the reaction was neutral and in three faintly alkaline. This change from alkaline to acid reaction was due to bacterial action on the mucous secretion by acid-forming organisms, especially Gram-positive cocci. In this acid medium regeneration of the epithelium can go on successfully. The acidity of the contents of the capsule explains its success as an anti-conceptional method. If spermatozoa reach the interior of the capsule they are soon rendered immobile.

The Biological Treatment of Leucorrhœa.

R. SALOMON (*Klinische Wochenscrift*, July 15, 1924) divides cases of leucorrhœa into four groups. In the first two there are found an acid reaction, vaginal bacilli and very few leucocytes. This condition is normal for the virgin. In the third grade the vaginal bacilli are scanty, whilst numerous pathogenic organisms are present. No vaginal bacilli are present in the fourth group. The reaction in these groups is generally neutral or alkaline. Leucocytes, epithelial cells and débris are generally in abundance. Naturally these last groups comprise most instances of inflammatory lesions of the uterus and adnexa. Treatment must first of all be concerned with the treatment of anæmia and raising the resistance of the body. Any extra-genital disease, such as tuberculosis, diabetes and so forth, must be treated in addition to any uterine or tubal infection. Provided these have been excluded, any method of local treatment must aim at restoring the normal relationship between the vagina and the flora contained therein. Disinfection of the vagina must be biological and not a destruction of organisms by strong drugs. Daily douching with 0.5% lactic acid will in two to three weeks convert most grade three conditions to grade one. Pregnant patients with a pathological discharge should be given these douches for fourteen days before labour. Injections of living lactic acid bacilli in milk-sugar have been used with success. Unboiled

milk which has stood at least one hour contains lactic acid bacilli which resemble closely those found in the vagina. One cubic centimetre poured into the vagina is the usual dose and the results so far have been promising.

NEUROLOGY.

Studies of Cerebral Function in Learning.

K. S. LASHLEY (*Archives of Neurology and Psychiatry*, June, 1924) points out that study of the function of the electro-stimulable cortex has resulted in a tangle of physiological fact and psychological speculation. The function is variously claimed to be motor, sensory, sensori-motor, to have a motor function exercised through the storage of motor images, to be the final common path for all voluntary movement and to be a reflex centre not primarily concerned with voluntary activity. To test some of these hypotheses Lashley took monkeys which had been initially trained in habits of manipulation and visual discrimination and destroyed the greater part of their precentral gyri in both hemispheres. When the animals recovered from the resulting paralysis it was found that they had perfect retention of these habits. From this it is concluded that the so-called motor areas are not concerned with the performance of complex learned activities. Also the motor impulses of conditioned reflexes must descend from areas of the cortex other than the precentral gyri and the latter cannot be taken as the sources of impulses for "voluntary movements." Destruction of the *corpus striatum* in the same animals subsequent to recovery from the diplegia produced only the usual signs of striate lesion without recurrence of the diplegia. Recovery from the diplegia, therefore, was not due to vicarious function of the striate body. Lashley believes the precentral gyrus to be part of the kinetic mechanism for reflex control of spinal posture and for maintenance of excitability of lower motor centres.

The Muscular Rigidity of Paralysis Agitans.

F. M. R. WALSHE (*Brain*, May, 1924) discusses the origin of Parkinsonian muscular rigidity and bases his remarks on the important finding that intra-mucular injections of a 1% solution of "Novocain" abolishes this rigidity and leaves the voluntary power of the muscle unimpaired. He considers that the rigidity, if not the sole factor in the characteristic slowness of initiation and performance and the restriction of range of movements in *paralysis agitans*, is certainly a very potent factor, since movements employing muscles rendered flaccid by "Novocain" injections are notably more rapid and ample than the same movements carried out by the rigid muscles before injection. He adds that tremor is completely unaffected by rendering the tremulous muscles flaccid by this means. Therefore, tremor is a phenomenon essentially different in its origin and nature from rigidity and the widely held view that "tremor is rigidity spread out thin," must be regarded as wholly untenable. Speculating on his findings he says that it is probable that the effect of "Novocain" is due to a selective paralysing action of the drug, used in weak solutions, upon afferent nerve fibres. If this be so, the muscle is rendered atonic by being deafferented and Parkinsonian rigidity must be regarded as a true proprioceptive reflex reaction. In this respect it resembles the spasticity which follows lesions involving the pyramidal system, but in other respects the two forms of hypertonus differ in important features. It is possible that the abolition of rigidity is due in part to a local effect upon the muscle fibres themselves. There is evidence to the effect that "Novocain" can abolish the spasm produced by the action of certain poisons upon the isolated muscle-nerve preparation.

The Experimental Production of Rigidity in Man.

JOSHUA ROSETT (*Brain*, August, 1924) describes abnormal neuro-muscular phenomena resulting simply from voluntary deep breathing, which may be used for physiological study as well as for clinical diagnosis. The procedure is harmless, excepting in the case of epilepsy and here the induction of an epileptic attack may be justified by an urgency of diagnosis. First he describes manifestations of tetany. Thus, when a normal person breathes as deeply as he can without undue discomfort at the rate of twelve respirations a minute, signs of tetany become pronounced in from fifteen to thirty minutes. The first signs are a slight and transient tremor of the eyelids and of the facial musculature and a few evanescent athetotic movements of the fingers. In a few minutes the tremor is replaced by sustained muscular rigidity. The orbicularis muscle of the eye and of the mouth are as a rule involved. The hands are similarly affected, the thumb and fingers assuming the tetanic posture ("obstetrician's hand"). General hypertonus may be inferred from a slight increase of the tendon reflexes. Subjective sensations are slight dizziness and in the parts affected by rigidity, tingling and numbness. The primary sensations of gross contact, of pain, of the higher degrees of heat and the lower degrees of cold are rendered more acute. And in a general way there is a moderate reduction of the conscious state. When this method is applied to persons with defects of the central nervous system numerous deviations from the foregoing are exhibited. The most striking action of hyperpnœa is upon the cerebral cortex. This is inferred from a number of the phenomena produced. Among these are a release of muscle tonus, an over-response to affective stimuli, the occurrence of mental states amounting to acute dementia and complete unconsciousness. The function of diseased tissue being relatively unstable, it is suspended with ease under the action of hyperpnœa. In a case of probable defect of the pyramidal system, so slight as to show altered reflexes alone, hyperpnœa induced a violent spasm of the arm. In a patient suffering from *tabes dorsalis* with lightning pains the pains were greatly intensified and in patients with athetosis and chorea the movements were increased to the utmost possible extent.

The Localization of Cerebral and Spinal Tumours.

IN a discussion on the localization of cerebral and spinal tumours (*Proceedings of the Royal Society of Medicine*, April 10, 1924) Percy Sargent described the technique of investigating spinal lesions by means of radiography after the injection of "Lipiodol" into the spinal theca. In the case of a complete block "Lipiodol" injected into the *cisterna magna* will be wholly arrested at the site of the block and will thus indicate its upper limit. The lower limit of the block can be ascertained by injecting at a second sitting more "Lipiodol" through a lumbar puncture and taking a radiogram with the patient head down. As extra-medullary tumours are usually small and intra-medullary tumours often extend over many segments, these two kinds of tumour may be distinguished. The method is free from danger. J. C. Jefferson enumerated various points in the X-ray diagnosis of cerebral tumours. Sutural diastasis or widening is to be looked for in children up to the age of ten or fifteen years. It is most noticeable at the coronal suture and will most commonly be found in cerebellar tumours or on obstructive hydrocephalus. Ribbing of the skull, usually in the frontal region, is an indefinite sign of tumour. Sellar distortion is to be remembered in connexion with ventricular dilatation as well as pituitary growths. Surgeons have tapped the floor of a distended third ventricle instead of the expected pituitary lesion. Hyperostosis of the bones overlying an endothelial or meningeal tumour has won for itself a definite place in cerebral pathology, but is hard to recognize on an X-ray film. Shadows cast by cerebral tumours themselves are rare. Calcification in the chorioid plexuses or in the pineal gland must not be mistaken for tumour. Lastly, ventriculography has won for itself a place in diagnosis, but is still in an experimental stage. Its chief objection is its danger and its chief danger indiscriminate use by surgeons who have had no great experience or training in cerebral surgery. James Purves-Stewart recommended the introduction of air into the cerebral ventricles by lumbar puncture after the withdrawal of some of the cerebro-spinal fluid, rather than by trephining. He held that there are many fallacies in the interpretation of these radiograms, however prepared and even under the most careful circumstances they frequently fail to indicate the site of the tumour.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE SECTION OF SURGERY OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, on November 12, 1924.

Cancer of the Rectum.

Mr. E. T. THRING read a paper entitled: "The Surgical Treatment of Cancer of the Rectum" (see page 201).

DR. T. FIASCHI, D.S.O., said that Mr. Thring had no need to apologize for his paper. He had found it instructive and sound and he agreed with Mr. Thring's views that the best treatment for most cases of cancer of the rectum was removal by the abdomino-perineal method and by the establishment of an iliac anus. This operation was comparatively new. It was only in 1896 that Giordano, of Venice, had published the first successful operation of this kind. Four such operations had previously been carried out, but all had been followed by death.

Mr. Thring had spoken of surgeons who were merely copyists. He frankly ranged himself as one of these. He had been much impressed by Quénu's masterly description of his method and he had followed it faithfully in a good many cases with good results. This method involved ligature of both internal iliac arteries. With a little care this could easily be done. Miles, a much later writer on this operation, had done away with ligature of the internal iliac vessels and secured safety and freedom from blood by simply ligating the inferior mesenteric artery. This was a step in advance. The operation was certainly a difficult one and could not be done without a certain percentage of deaths. In his own experience these had generally occurred when patients had been submitted to operation who were unsuited for this procedure. It was necessary to use a wise selection of cases in order not to discredit a good method. He agreed with Mr. Thring that in the majority of instances the one stage operation should be performed. A palliative colostomy only should be done for patients who were unsuited for the larger operation.

DR. GORDON CRAIG congratulated Mr. Thring on bringing up such an important subject for discussion. He considered that Miles had given an epoch-making contribution to surgery when he described his abdomino-perineal operation for cancer of the rectum. In reviewing the after histories of patients who had had the abdomino-perineal operation and those who had had sacral operations, there was no doubt that the former were more comfortable. The patient who had an artificial anus not subject to voluntary control, had better opportunities for personal cleanliness and comfort when the anus was in the inguinal region. He pointed out the necessity of selecting suitable cases for the abdomino-perineal operation. The operation was one of the most formidable in abdominal surgery and taxed to the utmost not only the strength of the patient, but the skill of the surgeon. He gave a short history of a patient he had operated on six years before by Miles's method, where the growth was in the ampulla of the rectum and had extended and invaded the skin round the anus. A recent examination showed that this patient was well and free from any sign of recurrence. Discussing complications that might arise, he cited the case of a patient whom he had seen in consultation. The ureter had sloughed and a fistula had formed from which urine was draining freely. It had been impossible to pass the ureteral catheter beyond a point 7.5 centimetres (three inches) from the bladder. The ureter had admitted the catheter to the right kidney without obstruction and the same kidney had yielded a good result to a functional test. A subsequent nephrectomy had revealed an early hydronephrosis and the patient had made an uninterrupted recovery. Dr. Craig had had one death from intestinal obstruction twelve days after operation owing to a loop of the small intestine prolapsing and being caught in the wound in the floor of the pelvis.

PROFESSOR F. P. SANDES said that it had been a long time before it was realized that the same principles governed the treatment of cancer of the rectum as governed that of cancer elsewhere. He considered that a preliminary colostomy was of value in some cases. He referred to the difficulty in performing the operation in men who had a narrow pelvic brim and in separating the rectum completely from the prostate. He had known the ureter to give way after Coffey's operation.

DR. ST. J. W. DANSEY said that some years previously he had treated two patients suffering from severe pelvic infection with abscess formation after excision of the rectum by Coffey's method of invaginating the rectum at the end of the first stage of the operation. One of the patients had died. Coffey advised that the pelvis should be drained. He considered that Lockhart-Mummery's method was excellent for malignant disease of the lower part of the rectum and anus when the upper part of the growth could be reached by the examining finger *per vaginam*. He said that preliminary colostomy was of advantage prior to removal of the growth in that it lessened surrounding inflammation and made the dissection easier. It also improved the patient's general condition by decreasing the toxins absorbed.

DR. R. P. B. MONSON said that he wished to congratulate Mr. Thring on his excellent paper. He had been very interested in it, for he had seen the work of many surgeons at the Cancer Hospital, London. Miles claimed the low mortality of 17%, but he fancied that few other surgeons had been able to reduce their mortality below 30%. This low figure was to be discounted, as he knew that Miles picked his cases and would not touch a patient if he thought that operation involved too much risk. He thought that Miles's low figures were accounted for by the combined use of spinal and general anæsthesia. He would like to refer to one interesting fatality that he had seen in Miles's clinic, namely herniation of the small intestine through the peritoneal floor. This was a danger always liable to occur and it could be forestalled by the routine inspection daily of the suture line of the peritoneum by means of a cystoscope. In the case to which he referred the house surgeon had neglected to carry out this precaution. He would like to ask Mr. Thring if in his long experience he had noticed rectal carcinoma appearing in younger subjects than formerly. He had seen a rectal carcinoma exhibited by Dowden, of Edinburgh, which he had successfully removed from a boy, aged eleven years, by an abdomino-perineal resection. This was an instance in which carcinoma had supervened on rectal polypi, a result which according to the teachings of modern pathology was a very real danger.

DR. J. FLYNN said that any discussion on cancer of the rectum would be a little incomplete if cognizance were not taken of the interpretation of the anatomy of the rectum derived from its embryology. The rectum was divisible into the terminal sigmoid, the rectum proper and the anal canal. The anal canal of Symmington had its origin in the proctodæum or skin infold. It was lined with pavement epithelium and had no mucous glands. The cancer that sprang from it, was a squamous epithelioma. The rectum proper was a highly differentiated part of the hind gut, named by Wood Jones the post-allantoic gut. The terminal sigmoid was the end of the hind gut. The last five centimetres of the sigmoid and the first 3.75 centimetres of the rectum had been termed the recto-sigmoid. This was surgically important because carcinoma was found more frequently in these 8.75 centimetres than in any corresponding part of the gastro-intestinal tract with the exception of the pyloric end of the stomach. In an investigation of one hundred specimens of cancer of the rectum and the recto-sigmoid carried out at the Mayo clinic the recto-sigmoid had been involved in sixty-three, the rectum proper in thirty and the anal canal in seven. It should be noted that the mucous lining which was thrown into longitudinal folds in striking contrast to the circular folds of the sigmoid immediately above, bore a remarkable resemblance to the columns of Morgagni of the anal canal.

There was scarcely any subject in surgery in which there was less unanimity among authorities in recent years than that of cancer of the rectum. Differences of opinion existed in regard to the best method of surgical intervention, the mode of extension, the regions most liable to recurrence and the expediency of preliminary

colostomy. Harrison Cripps held that 90% of rectal cancers were situated within fifteen centimetres of the anus and could, therefore, be dealt with from below. Miles, on the other hand, had decided to abandon the perineal and sacral methods of incision and to rely on the abdomino-perineal method. He had done this only after he had experienced nearly 100% of recurrences. Of fifty-nine persons subjected to perineal and sacral excision fifty-eight had recovered. Of these fifty-eight fifty-four were known to have suffered from recurrences. In no other connexion was pathological teaching less in accord with clinical experience. Sampson Handley's researches appeared to indicate that the lymphatics were involved for a considerable distance beyond the apparent margin of the disease. Since many patients remained free from recurrence after a somewhat limited operation, it was reasonable to assume that Nature was able to deal with isolated cancer cells after removal of the primary growth.

MEDICO-POLITICAL.

Meeting of the Federal Committee.

A meeting of the Federal Committee of the British Medical Association in Australia was held on February 4 and 5, 1925, in the Board Room of the Ear, Nose and Throat Hospital, Melbourne, Sir George A. Syme, K.B.E., the Chairman, in the chair.

Representatives.

The following representatives of the Branches attended the meeting:

New South Wales Branch: Dr. R. H. Todd, Dr. J. Adam Dick, C.M.G..
Victorian Branch: Sir George A. Syme, K.B.E., Dr. R. H. Fetherston.
Queensland Branch: Dr. W. N. Robertson, C.B.E., Dr. J. Lockhart Gibson.
South Australian Branch: Dr. H. S. Newland, C.B.E., D.S.O., Dr. Bronte Smeaton.
Tasmanian Branch: Dr. E. Brettingham Moore.

Apologies for non-attendance were received from Dr. F. A. Hadley and Dr. D. D. Paton, the representatives of the Western Australian Branch. Dr. Newland was asked to express the views of the Western Australian Branch. Apologies were also received from Dr. Gregory Sprott and Dr. D. H. E. Lines, the representatives of the Tasmanian Branch.

Congratulations.

Sir George Syme moved that a letter of congratulations be sent to Sir Neville Howse on his appointment as Minister of Defence and Health. The motion was carried unanimously.

On the motion of Dr. J. Lockhart Gibson it was resolved to congratulate Sir Frederick Truby King on having received the honour of knighthood.

Appointment of Office-Bearers.

The following members of the Committee were appointed to the offices indicated for the year 1925:

Chairman: Sir George Syme.
Vice-Chairman: Dr. W. N. Robertson.
Honorary Secretary and Treasurer: Dr. R. H. Todd.
Honorary Auditor: Dr. W. H. Crago.

New Premises of the British Medical Association in London.

The Honorary Secretary reported that the New South Wales Branch had submitted a motion to the Committee to the effect that in celebrating the epoch-making event of the British Medical Association entering its new house in Tavistock Square, Bloomsbury, in July, 1925, the several Branches of the Association in Australia be invited to join in making a presentation to the Association in recognition of the bond of kinship uniting them with the parent body. The members expressed their approval of the suggested action. It was therefore resolved that a cable be dispatched to the British Medical Association in London, advising that one hundred pounds was being sent for the purpose of having a chair made, preferably of Australian wood and that a plate be attached to the chair indicating that it was a presentation of the members of the British Medical Association in Australia.

It was held to be advisable that the chair should be made of Australian wood and bear suitable Australian emblems. In view of the shortness of time before the annual meeting, the Committee accepted the suggestion that the article of furniture should be made in London, where it was believed Australian wood that had been exhibited at the British Empire Exhibition at Wembley, would be available.

A letter from the Chairman of Council inviting the Committee to appoint a delegate to be present at the opening of the new house was read. Sir George Syme informed the Committee that he had received an invitation, but that owing to his appointment as Chairman of the Royal Commission of Public Health, it would be impossible for him to visit England at the time of the ceremony. The Committee requested the Vice-Chairman, Dr. W. N. Robertson, to make arrangements to go to England as the delegate of the Federal Committee. Dr. Robertson promised to give the matter his consideration.

Incorporation of Branches.

Correspondence was read between the Federal Committee and the Queensland Branch and between the Federal Committee and the Western Australian Branch, in regard to certain modifications of the model Memorandum of the Association required by the authorities in the two States. The Federal Committee approved of the advice given to the two Branches and noted that the constitution provided that the sanction of the Central Council would have to be obtained.

Australasian Medical Congress (British Medical Association).

First Session.

A letter was read from Dr. A. L. Kenny, Honorary Secretary of the First Session of the Australasian Medical Congress (British Medical Association), Melbourne, 1923, enclosing a statement of receipts and expenditure.

The total amount received was £2,353 6s. 1d.. This amount was made up of £1,760 from subscriptions, £377 11s. from trade exhibits, £55 representing the balance of the hospitality fund, £92 representing the balance of the dinner fund and various small sundry amounts. The expenditure aggregated £2,047 5s. 5d., including £1,187 for the printing and publishing of transactions, £150 for printing, £141 for petty cash disbursements, £94 for clerical assistance and sundry small amounts.

The members of the Committee expressed their gratification on learning that a substantial balance had been secured and resolved to communicate the thanks of the Committee to Dr. A. L. Kenny and Dr. C. H. Mollison for the admirable manner in which the work had been conducted and for the excellent results achieved.

Second Session.

Correspondence with the New Zealand Branch and with Dr. L. E. Barnett, C.M.G., and Professor W. P. Gowland was read. It was reported that during the interval between the acceptance of the invitation and the date of the meeting of the Federal Committee a request had been made to alter the date of the second session at Dunedin from February, 1926, to February, 1927. The date suggested was from February 2 to February 9. The members of the Committee had been notified and had expressed their willingness to accede to the request of the Executive Committee. Formal approval of the alteration was given on the motion of the Honorary Secretary. It was further resolved that a copy of the financial statement of the first session of Congress be forwarded to the Executive Committee of the Second Session.

Rules of Discussion.

Further consideration was given to the suggested amendments to the regulations of Congress dealing with the rules of discussion which had been left over from the last meeting. The proposed additions and alterations were carefully examined and the rules were adopted in an amended form.

Section of Orthopædics.

The Honorary Secretary reported that a recommendation had been forwarded by the New South Wales Branch to establish a section of orthopædics in future congresses. He pointed out that the regulations provided that the Executive Committee should determine the nature of the sections for the session.

National Health Insurance.

The Honorary Secretary read replies to a letter which had been addressed to the several Branches, asking that consideration be given to the outline of a scheme for compulsory individual national health insurance. The Queensland Branch, the Tasmanian Branch and the New South Wales Branch had intimated their agreement with the proposals. The Western Australian Branch had approved with the proviso that tuberculosis and venereal diseases should not be included. The Victorian Branch had given a general endorsement and had made certain suggestions for emendation. Each of these proposed alterations were considered; the majority were adopted after minor verbal amendments. It was then resolved that the scheme as amended be forwarded to the Royal Commission on National Health Insurance. The scheme is as follows:

That a Commonwealth Health Insurance Department be established under the Minister of Health to effect the insurance of all persons with income below a prescribed amount against accident and all sickness (on lines somewhat similar to those adopted in recognized accident and sickness insurance by insurance companies), with the proviso that in the administration of the insurance, the practising medical profession be adequately represented by nominees of the medical profession.

If such a basis is to be suitable it is thought that the term "all sickness" should be interpreted literally and should include tuberculosis, alcoholic and venereal diseases and malignant disease.

That the beneficiaries shall be insured against the cost of medical attendance and have free choice of medical attendant from among those practitioners who undertake insurance practice under the system.

The scheme shall include:

(*a*) Treatment by medical specialists who are legally qualified medical practitioners, registered in the State in which they practise.
(*b*) Institutional treatment (medical, surgical, mental, tuberculosis, malignant diseases, venereal diseases, *et cetera*), provided that facilities are maintained for medical education and research.
(*c*) Special treatments.
(*d*) X-ray, laboratory and other aids to diagnosis.
(*e*) Consultations between medical attendant and other practitioners.
(*f*) Maternity benefit, with ante-natal, neo-natal and post-natal care and institutional care and treatment.
(*g*) Dentistry benefit.

The proposal differs from the current United Kingdom system in the following ways:

(*a*) It covers not only employees whose incomes are within a prescribed income limit, but unemployed and unemployable.
(*b*) It covers all kinds of sickness and injury.
(*c*) It provides for all methods of diagnosis and treatment.
(*d*) The medical attendant would have no list of beneficiaries who would look to him for attendance, but would attend patients who came to him of their own choice as in private practice.
(*e*) Patients would be free to change their medical attendant, subject, of course, to the customary professional usages in respect of wrongful supersession and otherwise.
(*f*) The medical attendant would be paid by fee, recoverable from the department, in accordance with a scale of fees and charges agreed upon. The same fee would be payable in respect of all insured patients for the same service; although, no doubt, the unemployed in most cases and the unemployable in all cases, would be non-contributing beneficiaries.
(*g*) Provision would be made to prevent abuse of the system by the medical attendant and overworking the medical attendant by the beneficiaries.

Cooperation of the Medical Profession with the Commonwealth Department of Health.

The Committee further considered the report on the cooperation of the medical profession with the Commonwealth Department of Health drawn up by Dr. F. S. Hone and Dr. H. S. Newland.

The report is as follows:

Following on the discussion at the last meeting of the Federal Committee on the relationship of the general practitioner to preventive medicine, the present subcommittee was asked to prepare a report as to possible improvements in the public health system and means of bringing the general practitioner into more active cooperation with administrative authorities in preventive measures.

The discussion showed that at present different systems prevail in the different States.

In some, administrative measures with regard to health are delegated to local bodies. Sydney and Melbourne are the only two municipalities which employ a whole time health officer. In all States except New South Wales, within municipalities (except Melbourne) and in country districts, a part time health officer is employed, who as a rule is also in general practice. These smaller local governing bodies also employ as sanitary inspectors men who are performing other municipal functions. Experience has shown that under these conditions the medical practitioner who is officer of health, if he endeavours to carry out his health duties seriously, is at a disadvantage in his practice compared with his colleagues who are practising only; on the other hand, as health officer his salary is quite inadequate for any serious health work; he often has to fight against local vested interests and progress in health measures consequently is lacking. The failure of this method is testified by Dr. E. S. Morris, State Director of Public Health in Tasmania, who says in *Health*, September, 1923:

> The local officer of health, not being vested with essential responsibility and receiving a mere pittance in the nature of a retaining fee, cannot afford to give his attention to health administration which will often bring him into conflict with his prospective patients. His function in the community is, therefore, primarily curative when it should be preventive and until the medical officer of health, whether as general practitioner or full-time officer, is retained as an active unit of public health administration, responsible to the controlling body of the State, we must fall short of the ideal.

In New South Wales the medical staff are confined to central administration and to large municipalities. Local governing bodies have certain administrative powers in that State, but any measures for the prevention of the spread of isolated infective cases must be carried out by the practitioner at his own or the patient's expense until a definite epidemic threatens, when medical officers are sent to the district from the central administration.

In all the States the private practitioner notifies to local or central authorities cases of certain prescribed diseases, but beyond this his activities generally cease. This limitation of activities not only results in a lack of coordination between public health administrators and general practitioners, with a consequent atmosphere of distrust on both sides, but fails to utilize and develope the interest and activities of the bulk of medical practitioners in any public health scheme. In order to avoid a clash with non-medical administrative officers (*exempli gratia* sanitary inspectors and nursing inspectors) the practitioner often feels compelled to maintain an attitude of passivity towards preventive measures and to limit his interest to curative methods; the medical administrator consequently thinks he is uninterested.

Now that a definite course of lectures and an examination in public health and preventive medicine are in vogue in each of our universities, it would seem the natural corollary that the same opportunities should

be offered to practitioners to carry the idea of prevention into their daily work in medicine as is the case in surgery. If it is regarded as essential that hospitals should place at the disposal of surgeons the necessary facilities for preventive surgery, it is just as essential for necessary facilities to be offered by administrative bodies for the general practitioner to participate in preventive medicine. There are two such facilities that should be immediately offered: (i.) Increased proximity and accessibility to facilities for laboratory aids to diagnosis for country practitioners or for those practising in centres removed from the metropolis. As it will never pay a private practitioner to set up the laboratory necessary for this in country districts, it becomes the duty of some administrative body to provide such laboratory, just as operating theatres are provided in country hospitals. (ii.) Alteration of departmental machinery so that the graduate who has learned the principles of prevention in his university studies, may apply these in his practice; in this way men who are interested in public health problems, will gradually develope as specialists in public health, just as men develope now from general practitioners into specialists in surgery or medicine. Under the present system there is no opportunity given to the general practitioner to develope this side of his work into a specialty if he so desires.

There is a further difficulty that with the present lack of correlation between State and Commonwealth activities there is a constant fear in the mind of the medical administrators in both State and Commonwealth Departments of overlapping or of intrusion. In any scheme considered by the medical profession as a whole, this aspect should be considered, seeing that administrative medical officers are just as much members of our profession as general practitioners and the profession should therefore be seeking to remove any obstacles to the performance of their best work just as it does with practitioners.

Moreover, this fear of overlapping and intrusion is a serious obstacle to progress. It prevents concerted action for the preservation of national health, it destroys initiative and either from this cause or from lack of foresight on the part of the profession, fields of enterprise which are directly connected with public health, have been gradually removed from any control by the medical profession. One has only to instance the administration of the *Factory Acts*, of water and sewerage control, of town planning and similar activities to show the extent of this alienation.

Without going into further details, it may be agreed as a preliminary basis:

(i.) That the present system is unsatisfactory: (*a*) In its lack of uniformity in various States; (*b*) in the fact that in no State is the service of the practising practitioner officially utilized for the prevention of diseases to any degree consistent with his knowledge and opportunity; (*c*) in the absence of facilities for gaining accurate knowledge of possible infectious conditions except at long distances and the lack of inducement for the practitioner to develope his public health knowledge; (*d*) in the absence of adequate encouragement for the general practitioner to enter public health service as a professional specialty; (*e*) in the want of correlation between different States or between States and Commonwealth, with consequent overlapping or friction or loss of efficiency; (*f*) in the absence of any control of the health of large sections of the community engaged in industrial employment; (*g*) in the small improvement that has been gained in national health in return for the large sums of money spent in recent years by the Commonwealth on maternity bonuses, in subsidies to venereal diseases campaigns and in pensions for tuberculosis and other ailments; (*h*) in the slow fall of recent years in the incidence of such diseases as pneumonia, diphtheria, typhoid fever, scarlet fever, measles and similar diseases.

(ii.) That it is impossible to bring in any complete Commonwealth control of public health administration without a profund change in the Constitution and that under present conditions this is also, therefore, impracticable.

(iii.) That under these circumstances any scheme to rectify existing conditions must have as its immediate ideal: (*a*) An administrative scheme somewhat on the model of the United States Public Health Service where both States and Commonwealth play an active part; (*b*) a clear definition of the respective duties of States and Commonwealth; (*c*) the linking up of the general practitioner into active participation in the administrative scheme; (*d*) the steady inculcation of the ideal of prevention rather than of carrying out regulations, into both the actively administrative and actively practising members of the profession.

The unit in any such scheme would thus be the general medical practitioner. For such a scheme to be truly effective the registration of medical practitioners would need to be a Commonwealth matter, the States being asked to pass the small piece of legislation necessary to hand this over. The need for such a change is already being increasingly felt by the medical profession for various other reasons. A medical board in each State of the same constitution and with the same general functions as at present should be preserved, all working under the same Commonwealth medical registration act and registration by any board being effective throughout the Commonwealth. In addition to the usual clauses allowing removal from the register for various offences, there would need to be a clause enacting that gross or repeated instances of neglect of health duties by any practitioner, empowers the district health officer to report that practitioner to a registration board. There should be adequate safeguards that this should not be done for moral offences. Practitioners are already liable to fine under *Quarantine and Public Health Acts* for neglecting to report infectious cases *et cetera*. Instead of an extension of this system it would seem advisable that more serious neglect of health responsibilities should be dealt with by his professional colleagues who would constitute such a board, than by legal processes, for advance to a more active preventive conscience in such individual practitioners depends on education and persuasion primarily. But ultimately there would have to be disciplinary or even punitive clause.

Medical Unit.

On the medical side the unit is the medical practitioner, whether in general or special practice or acting as medical officer to industrial or school organizations or to institutions. In addition to the treatment of his patients, he should—

(i.) Notify to his district health officer on prescribed forms: (*a*) All births, stillbirths and miscarriages. Objection has been taken to this suggestion on the grounds that it would be impossible to secure notification of miscarriages in single women. The force of this objection is recognized. If it is so strong that notification of miscarriages would be a dead letter, it had better be dropped. On the other hand, it must be recognized that the notification proposed is to a medical not lay authority and that if the medical profession is to take its share in the lessening of criminal abortion, some such step will ultimately be necessary. Confidential notification of miscarriages by married women would frequently lead to the institution of treatment for otherwise overlooked maternal syphilis. Notification of stillbirths to the district medical officer would have the same effect. Notification of births to such authority would be of great value statistically and would assist in infant welfare objects. (*b*) All deaths. At present the death certificate is given to the relatives or undertaker and is largely formal. This practice would continue for burial purposes, but in addition a confidential notification to be made to the medical officer as is at present done in Switzerland, could often show the relation of the cause of death to a previous infection in a way that is impossible now. This would afford more accurate statistical information and would make available a mass of information that is at present unutilized for public health purposes. The need is so greatly felt that some States already have a private arrangement between the Principal Medical Officer of the State and the Registrar of Deaths, by which the latter forwards to the former copies of certificates relating to deaths from infectious

causes. The present suggestion would gain the same object in a much more direct and far-reaching way. (c) All cases of communicable disease prescribed by the regulations. (d) All cases of mineral (lead *et cetera*) or organic (alcohol *et cetera*) poisoning.

(ii.) Order in writing prescribed methods of concurrent and terminal disinfection in infectious cases. The methods would be prescribed by the State health authorities (with the conference of State health authorities suggested later in the scheme these would soon become uniform in different States). The prescribed methods would be printed on different forms for different diseases. The practitioner would only need to sign one of these and hand to the householder, just as quarantine officers in different ports now hand fumigation orders to captains of vessels which require fumigation.

(iii.) Carry out the prescribed methods for the prevention of the spread of infection by contacts or carriers (*id est* throat swabs, collection of urinary and fæcal specimens *et cetera*). At present some of these are done by nursing or sanitary inspectors. It would be far quicker and more efficient for them to be done by the practitioner seeing and treating the case.

(iv.) Examine school children in particular districts by arrangement with the district health officer and education authorities. Such a provision would chiefly apply to country schools and might occur with regard to a particular threatened epidemic or with regard to physical examination of school. It would afford opportunity of cooperation of educational and health authorities in special cases.

(v.) Carry out other health duties as prescribed from time to time by regulations or as requested by district health officer. The objection has been raised that such a proposal puts the practitioner too much under the control of the district health officer. It must be remembered that in the discussion of a general scheme, some such clause must be inserted, to leave room for possible developments beyond the instances above cited. The term "requested" as opposed to "prescribed" is used to emphasize the fact that mutual cooperation between district health officer and practitioner is requisite to the scheme, rather than the purely formal carrying out of legal enactments.

NOTE.—For all such services rendered the practitioner will receive fees prescribed by regulation. There would thus be an incentive to him to increase his activities; the more interest he showed in preventive measures, the more his remuneration; part-time medical officers would be abolished; all men in practice would be on the same level in relation to departmental administration.

Administrative Unit.

On the administrative side the unit is the municipal district or shire council. (Different terms are employed in each State, in some this body as regards health activities is termed the Local Board of Health). Some such unit is necessary to compel householders to correct nuisances and to carry out other legal formalities. At present, city councils in large municipalities are active and generally ready to accept the advice of their medical officer of health, becauses they are face to face with urgent problems. Experience has shown that country councils can only be induced to act by medical pressure from without; the local part-time medical officer cannot apply this pressure, the central administrative staff is too far away. This is where the district health officer would fulfill a useful function. Seeing that he to a greater or less extent would be independent of local councillors and that his appointment would not lie in their hands, it would bring a spur into action that is at present lacking. By means of the reports of his sanitary and nursing staff he could order and compel local boards of health to carry out necessary sanitary measures.

Above these units there would be side by side a State organization and a Commonwealth organization.

(1) State Organization.

District Health Officer.—The district would be the city, town or area comprising adjacent suburban towns or rural district (or shire) councils. The district health officer would be a whole time officer and, if possible, all such officers from the outset should have a registrable post-graduate public health qualification. The active conduct of the various health measures and organizations in his district would be his responsibility. Attached to him should be a whole-time sanitary inspection staff and a nurse inspection staff. In small or scattered districts he might act as medical inspector of school children; in large districts a separate officer would undertake this. Already in cities such officers exist acting as the medical officer of health, paid by the local rates. Just as this officer sometimes acts for several combined municipal bodies which were originally distinct, so in the country districts the district health officer would control the health of a collection of district councils. Dr. Armstrong, State Director-General of Public Health in New South Wales, put forward such a scheme for his State some years back, but for financial reasons the Government have not taken action. Dr. Everett Atkinson, Commissioner of Public Health, Western Australia, says in *Health*, January, 1924:

> The most outstanding need at the moment in regard to this public health machinery is the division of the State into a number of areas, each under the direct supervision of a full-time medical officer of health, properly trained in the modern principles of preventive medicine.

Already in Victoria a beginning has been made with such whole-time district health officers, but as yet their activities seem to be largely concerned with sanitary surveys. Under a proper scheme this would be more a function of the sanitary inspection staff and the district health officer would be more concerned with advising and inspiring medical practitioners who are performing the details of health duties and in initiating and maintaining campaigns to avoid disease. His district should not be so large that he could not visit any part of it and return within a day.

The district health officer would thus receive reports of births, sickness and death from individual practitioners; would make suitable arrangements for examination of and report on specimens they might forward to the laboratory; he would standardize disinfection measures for different complaints throughout his district; by the reports of his sanitary and nursing staff, he would be in touch with all conditions promoting the spread of disease; he would thus be able to direct the necessary activities for promotion of health in his district. Ordinarily in these matters he would see to the enforcement of the State *Health Act* and regulations on the reports of his sanitary and nursing staff without reference to his central authority and he should similarly initiate necessary activities in connexion with such matters. Special insanitary conditions or outbreaks of disease he would refer to the chief State officer. In addition to his sanitary and nursing staff he would need the services of a district laboratory. The Commonwealth authorities have already established certain of these in the different States and they could well assist in the development of such a scheme by extending these laboratory facilities to different districts.

Salary.—The initial salary of such an officer should be a minimum of £750 a year, with periodic increases. Theoretically, as the salary of the municipal health officer is at present paid out of the rates of the municipality, the district health officer's salary should be paid from the health rate of the district which he supervises. It seems to be impossible to establish a uniform procedure throughout Australia and it would probably take years to educate country districts up to the wisdom of such a policy. It would seem advisable, therefore, that the salaries of such district health officers should be paid direct by the State, as such officers would be appointed by the State health authorities and not by local bodies. The Commonwealth might pay the moneys now spent on venereal diseases subsidy, medical fees for invalid pension and so on to the State as a subsidy towards the salary of the district health officer in return for work which it might be arranged he should do under these heads.

Chief State Health Officer.—The Chief State Health Officer would have much the same function as at present.

To him would go reports from district health officers of diphtheria, typhoid, measles, whooping cough, scarlet fever and similar State notifiable diseases, special reports of insanitary conditions, reports of hospitals *et cetera*. He would be responsible for the control of hospitals, infectious hospitals, food and drugs, milk, and the prescribed infectious diseases in his State. The salary of this officer in different States ranges from £800 *per annum* upwards. Steps should be taken to raise his salary more nearly to the level of the Chief Commonwealth Health Officer in the different States. The initial salary should be at least £1,500 a year, with regular increments.

State Health Council.—There should be a State health council composed of, say: (i.) The State Chief Health Officer, (ii.) the Commonwealth Chief Health Officer, (iii.) the State Chief Sanitary Engineer, (iv.) the (?) State Chief Veterinary Officer, (v.) a representative of practising medical profession. (vi.) a representative of local administrative bodies, (vii.) a representative of school or mental hygiene. This council would need to meet regularly. Composed of such different representatives it would be able to survey and review the health problems of the State or division in which it functions. It would also arrange conferences at least every six months of the various district health officers, at which problems would be discussed. There should also be at least once a year an interstate conference of State and Commonwealth Chief Officers of Health.

(2) Commonwealth Organization.

Quarantine Officer.—The quarantine officer will serve the same functions as the present quarantine officer who is a whole-time officer receiving reports from medical officers on ships, arranging disinfection of vessels, controlling measures for prevention of entry of disease into his area and supervision of health of seamen and performing such other duties as may be prescribed by Quarantine Regulations or by his Chief Commonwealth Health Officer, receiving as a start, a minimum salary of £656 a year, with regular increments.

Medical Officer, Laboratories.—The medical officers, laboratories, have charge of the different Commonwealth laboratories established in different districts and are responsible for the performance of their proper functions. They have the same status and salary as the quarantine officer.

Chief Commonwealth Officer of State or Division.—Above these would be the Chief Commonwealth Health Officer for the State or division. To him go all medical reports of quarantinable diseases; he is responsible for the control in his division of quarantine station and district laboratories. The question whether he would receive reports of more than above disease would depend on the extent to which the Commonwealth shared in the payment of district medical officers. As the Commonwealth pays maternity bonuses, it would seem the natural corollary that reports of maternal mortality and early infantile mortality should be forwarded to him by district health officers, in order that the Commonwealth authorities might initiate any measures necessary in particular districts for the reduction of such mortality. If subsidies for the suppression of venereal diseases and pensions for tuberculosis continue, it would seem also the natural corollary that the reports of such cases should go from the district health officer to the Chief Commonwealth Health Officer in that State so that the present useless or uncontrolled expenditure of such moneys should be prevented. The salary of the whole-time Chief Commonwealth Health Officer at present varies from £960 to £1,150. There should be a minimum initial salary of at least £1,500 a year with yearly increments.

Director-General of Health.

At the head of the health organization is the Director-General of Health for the Commonwealth, whose function would continue as at present. A point on which emphasis should be laid in any properly considered scheme of national health administration, is the salary of this official who is the chief health adviser to the nation. The present salary £1,200, is less than that of the Director-General of Army Medical Service or of any similar official and is totally inadequate to the services performed to the nation, besides being only slightly in advance of the salary of the Chief Commonwealth Health Officer in the larger States. He should receive at least £2,000 to £2,500 a year.

He should have at his headquarters as divisional officers: (i.) Director of Marine Hygiene, (ii.) a Director of Laboratories, (iii.) a Director of Tropical Hygiene, (iv.) a Director of Epidemiology, (v.) a Director of Industrial Hygiene (these are already in existence); (vi.) a Director of Sanitary Engineering, (vii.) a Director of Individual Hygiene, (viii.) a Director of School Hygiene, (ix.) a Director of Animal Hygiene and possibly others, such as dental *et cetera*. These different officers should be available for advice to the different territorial chief health officers or to the district medical officers.

Military and naval hygiene would be left to their respective organizations. Statistics would be left to the Federal Statistician, proper arrangements being made for necessary reports to be forwarded direct to him from district health officers or chief health officer.

Finance.

The chief expenses would come under the following heads: (i.) Salaries for medical staff, (ii.) salaries for inspectors, (iii.) fees for notification. Theoretically these should be paid from local rates as is done at present in large municipalities. At present there would probably be difficulty in country districts in getting agreements to such expenditure. The following are possible plans to meet this difficulty: (i.) Compulsory rating of country districts served as is done at present in New Zealand and South Australia for hospitals serving country districts; (ii.) if this is not practicable it is probable that local rates would have to meet expenses of notification fees and inspectors and that salaries of whole-time medical officers must be paid by State or Commonwealth or both combined, as suggested above. This would introduce a different system from that existing in municipalities, but it seems impossible under present circumstances to have a uniform system throughout Australia. If the control of different diseases were allocated to Commonwealth and State, as has been outlined, it is possible that arrangements might be made by which each of these authorities should contribute to the salary of country medical officers.

The solution of these financial problems, however, is not much a matter for this Sub-Committee, whose duty it is to suggest means by which the medical profession can work together in prevention.

General.

One further matter should be added. Besides the regular conference within a State of district health officers and the annual conferences of Chief States and Chief Commonwealth Health officers, steps should be taken to arrange definite and regular conferences between the Federal Committee as representing the medical profession of the Commonwealth and the Director-General of Health as representing the Commonwealth Health Department. The value of the interchange of opinion gained at such informal conferences as have hitherto been held, emphasizes the need for some such procedure and for any health scheme to be progressive there needs to be machinery by which the views of the practising profession can be regularly put before the chief departmental administrator of health in the Commonwealth.

A commentary by the Public Health Section of the New South Wales Branch on this report had been forwarded by the Branch and was read. A further commentary by Dr. E. Robertson, Chairman of the Health Commission of Victoria, was also read. A prolonged discussion ensued in the course of which the views of the Victorian Branch were expressed, particularly in regard to the alleged failure of the system of part-time medical officers of health. It transpired that there was general agreement with the arguments in the report, although some of these arguments did not have universal application. It was, therefore, suggested that the Committee should adopt the

recommendations contained in the report and should allow the narrative and arguments to be reserved. The following resolutions were passed:

The Federal Committee is of opinion:

(i.) That the present system of public health administration is unsatisfactory: (*a*) In its lack of uniformity in various States; (*b*) in the fact that in no State is the service of the practising practitioner officially utilized for the prevention of diseases to any degree consistent with his knowledge and opportunity; (*c*) in the absence of facilities for gaining accurate knowledge of possible infectious conditions except at long distances and the lack of inducement for the practitioner to develope his public health knowledge; (*d*) in the absence of adequate encouragement for the general practitioner to enter public health service as a professional specialty; (*e*) in the want of full coordination between different States or between States and Commonwealth; (*f*) in the absence of adequate control of the health of large sections of the community engaged in industrial employment; (*g*) in the relatively small improvement that has been gained in national health in return for the large sums of money spent in recent years by the Commonwealth on maternity bonuses, in subsidies to venereal diseases campaigns and in pensions for tuberculosis and other ailments; (*h*) in the slow fall of recent years in the incidence of such diseases as pneumonia, diphtheria, typhoid fever, scarlet fever, measles and similar diseases.

(ii.) That it is impossible to bring in any complete Commonwealth control of public health administration without a change in the Constitution and that under present conditions this is also, therefore, impracticable; but, in the opinion of the Federal Committee it is desirable that there should be uniform registration and disciplinary control of medical practitioners throughout the Commonwealth.

(iii.) That under these circumstances any scheme to rectify existing conditions must have as its immediate ideal: (*a*) An administrative scheme on the lines of the United States Public Health Service where both States and Commonwealth play an active part; (*b*) a clear definition of the respective duties of States and Commonwealth; (c) the linking up of the general practitioner into active participation in the administrative scheme; (*d*) the steady inculcation of the ideal of prevention into both the actively administrative and actively practising members of the profession.

There should be: (i.) A medical unit and (ii.) an administrative unit.

Medical Unit.

On the medical side the unit is the medical practitioner, whether in general or special practice or acting as medical officer to industrial or school organizations or to institutions. He should:

(i.) Notify to his district health officer on prescribed forms: (*a*) All births and stillbirths, (*b*) all deaths, (*c*) all cases of communicable disease prescribed by the regulations, (*d*) all cases of mineral or organic poisoning.

(ii.) Order in writing methods, prescribed by the health authority, of concurrent and terminal disinfection in infectious cases.

(iii.) Carry out the methods prescribed by the health authority for the prevention of the spread of infection by contacts or carriers.

(iv.) Carry out medical inspection of school children in particular districts by arrangement with the district health officer and education authorities.

(v.) Carry out other health duties as prescribed from time to time by regulations or as requested by district health officer.

(vi.) Be entitled to receive adequate fees.

Administrative Unit.

On the administrative side the unit is the municipal district or shire council.

(1) State Organization.

District Health Officer.—The district would be the city, town or area comprising adjacent suburban towns or rural district (or shire) councils. The district health officer would be a whole-time officer and, if possible, all such officers from the outset should have a registrable post-graduate public health qualification. The active conduct of the various health measures and organizations in his district would be his responsibility. Attached to him should be a competent whole-time staff. In small or scattered districts he might act as medical inspector of school children.

Salary.—The initial salary of such an officer should be a minimum of £1,000 a year, with periodic increases. Such district health officers should be appointed and paid by the State.

Chief State Health Officer.—The Chief State Health Officer should control the health administration of the State. His initial salary should be a minimum of £1,750 a year, with regular increments.

State Health Council.—There should be a State health council composed of, say: (i.) The State Chief Health Officer, (ii.) the Commonwealth Chief Health Officer, (iii.) two representatives of practising medical profession nominated by the Branch of the British Medical Association in the State. This council should meet regularly.

(2) Commonwealth Organization.

Quarantine Officer.—The quarantine officer should serve the same functions as the present quarantine officer, but should, where practicable, be a whole-time officer. His salary should be a minimum of £750 a year, with regular increments.

Medical Officer, Laboratories.—Laboratories on the lines of those already instituted should be established wherever necessary to supply the requirements of the locality for assistance in diagnosis and for research. Each laboratory should have a whole-time medical officer specially qualified for the purpose with an initial salary not less than £750 a year, with regular increments.

Chief Commonwealth Officer of State or Division.—Above these should be the Chief Commonwealth Health Officer for the State or Division. There should be a minimum initial salary of at least £1500 a year with yearly increments.

Director-General of Health.

At the head of the health organization should be the Director-General of Health for the Commonwealth, whose function would continue as at present. His salary should be a minimum of £2,500 a year.

Industrial Hygiene Contracts.

A letter was read from the Victorian Branch suggesting that the Federal Committee should draft a uniform contract for medical practitioners acting as industrial hygiene medical advisors to employers. The Honorary Secretary had communicated with the Director-General of Health on the matter and had been advised by him that he was not aware of any form of agreement applicable to all industries under all conditions, but forwarded a model which could be modified according to circumstances. Service publication No. 20, entitled "The Scope of Industrial Hygiene," was submitted. The model contract form of the Health Department was considered.

It was resolved on the motion of Dr. R. H. Todd, seconded by Dr. J. A. Dick:

That a draft model form of agreement between industrial hygiene medical advisor and employer be prepared for consideration at the next meeting of the Federal Committee.

On the motion of Dr. J. A. Dick, seconded by Dr. W. N. Robertson it was also resolved:

That treatment by industrial hygiene medical advisors on employees should be restricted to first aid.

Acquisition of Land for the British Medical Association in Federal Capital Territory.

The Honorary Secretary reported that in accordance with the instructions given at the last meeting he had communicated with the Department of Home and Terri-

tories on the proposal that an area in the Federal Capital Territory be reserved for scientific institutions and that part of this area be allocated to medical scientific institutions including the British Medical Association. He had been informed that this matter had been referred to the Federal Capital Advisory Committee. It was, therefore, decided that the Federal Capital Advisory Committee be communicated with.

The opinion was also expressed that the site chosen should be in close connexion with the University and the general hospital.

Medical Insurance Agents.

Dr. R. H. Todd and Dr. J. A. Dick, acting as a sub-committee, submitted as requested by the Committee a report on the establishment of a medical insurance company for medical practitioners. Inquiries had been instituted and the report had been drafted with due regard to the results of these inquiries.

The sub-committee intimated that the company could be a company with liability limited by shares or with liability limited by guarantee. If the last measure were adopted, the working expenses could be provided by the issue of debentures to the members of the British Medical Association or from share capital. If there were shareholders, there could be no other members of the company. If there were no shareholders the members of the company could be nominated by the several Branches of the British Medical Association in Australia, as was the case with the Australasian Medical Publishing Company, Limited.

Sir George Syme said that they were much indebted to Dr. Todd and Dr. Dick for the trouble they had taken in making all the inquiries and for drafting the report.

Dr. R. H. Fetherston informed the Committee that the Medical Society in Victoria had been conducting insurance work for some time and had made substantial profit. The Council had resolved to form a company for this purpose, but had postponed taking action on learning that the Federal Committee was drafting a scheme for the whole Commonwealth. They had been able to charge lower premiums than the ordinary insurance houses. An interesting offer had been made by a well-known institution to join in the undertaking so that the cost of administration could be reduced by about one half.

After further discussion it was resolved:

That the Federal Committee is in favour of the formation of an insurance company with liability limited by guarantee, without share capital, the working expenses to be provided by the issue of debentures and the constitution of the Australasian Medical Publishing Company, Limited, to be followed.

Dates of Meeting.

On the motion of the Tasmanian Branch it was resolved that steps be taken to amend the constitution of the Federal Committee so that its meeting could be held on any date each year not later than the last day of May. The present constitution required that a meeting should be held not later than the last day of February. The object of this alteration was to avoid, if possible, a meeting in February which was often inconvenient on account of the heat for travelling and incidentally to avoid a meeting in July when the passage from Tasmania to the mainland was often a rough one.

Popular Monthly Medical Journal.

The New South Wales Branch had forwarded a motion as follows:

That in view of the fact that there is a constant legitimate demand on the part of the public in Australia for information in regard to health and disease and its prevention and in regard to medical and allied sciences generally, including domestic, industrial and public hygiene and similar subjects, it is desirable that a popular journal at once authoritative and attractive should be published for lay readers.

That the Directors of the Australasian Medical Publishing Company, Limited, be asked to give consideration to the question of producing a monthly or quarterly journal of the kind indicated.

Replies had been received to a letter containing these proposals from the New South Wales, Queensland, South Australian and Victorian Branches, intimating that each Branch approved of the publication of a popular medical journal.

The motion of the New South Wales Branch was adopted.

Medical Service in Public Hospitals.

The Victorian Branch had forwarded a motion to the following effect:

That the Federal Committee be requested to refer to the various Branch Councils the question of the advisability of drawing up a policy which will, as far as possible, be uniform throughout the Commonwealth, governing the condition of medical service in public hospitals.

The principle of this motion received the support of the members and it was resolved to submit the question to the several Branches.

Medical Treatment of Widows of Deceased Soldiers.

The Honorary Secretary explained that in 1923 the Repatriation Commission had approached the Federal Committee in order to make provision for medical attendance to the widows and orphans of deceased soldiers and the widowed mothers of unmarried deceased soldiers. The Commission had made arrangements with the friendly societies to receive these beneficiaries as members of lodges and asked the Federal Committee to induce the medical officers of lodges to accept them on their lists for medical attendance (see THE MEDICAL JOURNAL OF AUSTRALIA, December 22, 1923, page 663; March 15, 1924, page 271). The Federal Committee had communicated with the Branches, urging them to recommend to their members that they accept these beneficiaries on their lodge lists.

A communication had been received from the Queensland Branch suggesting that the arrangements be rescinded in view of the fact that a relatively small proportion of the eligible widows and mothers had applied to be taken on the friendly society lodge lists. It was explained by the Honorary Secretary that neither the Repatriation Commission nor the Federal Committee had anticipated that all those eligible would take advantage of the arrangements. Medical practitioners had been asked to undertake this work on patriotic grounds. Moreover, it transpired that the Repatriation Commission had extended the benefits without any statutory compulsion. It should be clearly understood that neither the Federal Committee nor the Branch Council had power to bind the members of the Branches to carry out the work. After full discussion it was resolved:

That the Queensland Branch be advised that it is not obligatory on the medical officers of friendly society lodges to accept the Repatriation Department's beneficiaries on their lists.

That they were only urged to do so on patriotic grounds.

Vote of Sympathy.

On the motion of Dr. Lockhart Gibson, seconded by Dr. W. N. Robertson, the Committee resolved to send a letter of condolence to Dr. J. S. C. Elkington on the death of his wife.

Date of Next Meeting.

It was resolved that the date of the next meeting be left in the hands of the Chairman.

Votes of Thanks.

Votes of thanks were passed to the Victorian Branch for their hospitality, to the Board of Eye, Ear and Throat Hospital for having provided accommodation and to Sir George A. Syme for the excellent manner in which he had conducted the meeting.

NOMINATIONS AND ELECTIONS.

THE undermentioned have been elected as members of the New South Wales Branch of the British Medical Association:

Addison, Philip Lawrence Kenneth, M.B., Ch.M., 1921 (Univ. Sydney), High Street, West Maitland.
Amphlett, Julie Leonie, M.B., Ch.M., 1923 (Univ. Sydney), 28, Crow's Nest Road, North Sydney.
Bayliss, Charles Gordon, M.B., Ch.M., 1924 (Univ. Sydney), The Lillies, Leeders Avenue, Hurstville.
Goldberg, Solomon, M.B., Ch.M. 1924 (Univ. Sydney), 82, Ashley Street, Chatswood.
Coles, Joseph Harry, M.B., Ch.M., 1923 (Univ. Sydney), 65, Edgecliff Road, Woollahra.
Hamilton, Marie Montgomerie, M.B., Ch.M., 1923 (Univ. Sydney), Wentworth Road, Strathfield.
Helms, Karen Thomsen, M.B., Ch.M., 1922 (Univ. Sydney), St. George District Hospital, Kogarah.
Hewitt, Thomas George, M.B., Ch.M., 1924 (Univ. Sydney), Lismore.
Miskle, Clarence Patrick, M.B., Ch.M., 1924 (Univ. Sydney).
O'Connor, Horace Herbert, M.B., Ch.M., 1923 (Univ. Sydney), Surrey Street, Epping.
Riley, Bernard Moreton Birkenhead, M.B., Ch.M., 1923 (Univ. Sydney), 7, Mosman Street, Mosman.
Saunders, Ida Blanche, M.B., Ch.M., 1922 (Univ. Sydney), 99, Woniora Road, Hurstville.
Stayner, Frederick Eastwood, M.B., Ch.M., 1924 (Univ. Sydney), Rowe Street, Eastwood.

The undermentioned have been elected as members of the Queensland Branch of the British Medical Association:

Paine, Clive Lansdell, M.B., Ch.M., 1920 (Univ. Sydney), Atherton.
Nash, Reginald James, M.B., Ch.M., 1923 (Univ. Sydney), Brisbane.

The undermentioned have been elected as members of the South Australian Branch of the British Medical Association:

Leditschke, F.B., M.B., B.S.. 1924 (Univ. Adelaide), Adelaide.
Lamphee, A. D., M.B., B.S., 1924 (Univ. Adelaide), Adelaide.
Reed, Mary E. Hayter, M.B., B.S., 1924 (Univ. Adelaide), Adelaide.
Pellew, Henry E., M.B., B.S., 1924 (Univ. Adelaide), Adelaide.
Formby, Myles L., M.B., B.S., 1924 (Univ. Adelaide), Adelaide.
Hamilton, Ian A., M.B., B.S., 1924 (Univ. Adelaide), Adelaide.
Hone, Garton M., M.B., B.S., 1924 (Univ. Adelaide), Adelaide.

Naval and Military.

APPOINTMENTS.

THE undermentioned appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, Nos. 80, 82, 86 of October 30, November 6 and November 13, 1924, and No. 1, January 8, 1925:

PERMANENT NAVAL FORCES OF THE COMMONWEALTH (SEA-GOING FORCES).

Promotion.—Surgeon Lieutenant-Commander William Edgar Roberts is promoted to the rank of Surgeon Commander. Dated 1st January, 1925.

AUSTRALIAN MILITARY FORCES.

First Military District.

Australian Army Medical Corps Reserve.

Honorary Captain G. W. S. Farmer is retired, under the provisions of Australian Military Regulation 152 (1), 11th January, 1925.

Second Military District.

Reserve of Officers.

Captain W. G. Oakeley is transferred to the Reserve of Officers, 3rd Military District, 20th December, 1924; Major D. S. Mackenzie, D.S.O., is transferred to the Reserve of Officers, 5th Military District, 20th December, 1924.

Third Military District.

Australian Army Medical Corps.

Lieutenant-Colonel W. W. W. Chaplin and Major W. H. Rennick are restored to the authorized establishments of Lieutenant-Colonel and Major, respectively, 1st July, 1924.

To be Lieutenant-Colonels.—Major (Honorary Lieutenant-Colonel) A. M. Wilson, D.S.O.; Majors (Honorary Lieutenant-Colonels) D. D. Cade, D.S.O., and E. W. Gutteridge, and Majors J K. Adey, O.B.E., and R. W. Chambers, D.S.O., 1st August, 1924; Lieutenant-Colonels H. J. Williams, D.S.O., D. D. Cade, D.S.O., J. K. Adey, O.B.E., and R. W. Chambers, D.S.O., to be supernumerary to the establishment of Lieutenant-Colonels, with pay and allowances of Major, 1st August, 1924; Lieutenant-Colonel E. W. Gutteridge to be supernumerary to the establishment of Lieutenant-Colonels with pay and allowances of Captain, 1st August, 1924; the provisional appointment of Captain M. Jacobs is terminated under the provisions of section 15 of the Defence Act, 7th August, 1924.

To be Captain (provisionally).—Morris Jacobs, 8th August, 1924.

To be Lieutenant (provisionally).—Julian Johnstone Searby, 20th October, 1924.

To be Lieutenant-Colonels.—Major (Honorary Lieutenant-Colonel) A. M. Wilson, D.S.O., Major H. J. Williams, D.S.O., Majors (Honorary Lieutenant-Colonels) D. D. Cade, D.S.O., and E. W. Gutteridge, and Majors J. K. Adey, O.B.E., and R. W. Chambers, D.S.O., 1st August, 1924; Lieutenant-Colonels H. J. Williams, D.S.O., D. D. Cade, D.S.O., J. K. Adey, O.B.E., and R. W. Chambers, D.S.O., to be supernumerary to the establishment of Lieutenant-Colonels, with pay and allowances of Major, 1st August, 1924; Lieutenant-Colonel E. W. Gutteridge to be supernumerary to the establishment of Lieutenant-Colonels, with pay and allowances of Captain, 1st August, 1924. (In lieu of so much of notice appearing in *Commonwealth Gazette*, No. 82, of 6th November, 1924, page 2132.)

To be Majors.—Captains H. G. Loughran and A. P. Derham, M.C., 1st May, 1924, and 1st July, 1924, respectively. The provisional rank of Lieutenant-Colonel H. R. Catford is confirmed.

Reserve of Officers.

Captain T. R. Jagger, M.C., is transferred from the Australian Army Medical Corps, 5th Military District, 9th September, 1924.

Captain W. G. Oakeley is transferred from the Reserve of Officers, 2nd Military District, 20th December, 1924. Major W. K. Hughes is placed upon the Retired List, with permission to retain his rank and wear the prescribed uniform, 3rd January, 1925.

Australian Army Medical Corps Reserve.

To be Honorary Captain.—Thomas Kingsley Russell Allen, 10th October, 1924.

Honorary Captain R. E. Weigall is retired, under the provisions of Australian Military Regulation 152 (1), 29th December, 1924.

AWARD OF THE COLONIAL AUXILIARY FORCES' OFFICERS' DECORATION.

Australian Army Medical Corps.

Colonel C. G. Shaw, D.S.O.

Fourth Military District.

Australian Army Medical Corps.

To be Majors.—Captain C. T. Turner, M.C., and I. B. Jose, M.C., 1st August, 1924; Major I. B. Jose, M.C., to be supernumerary to the establishment of Majors, with pay and allowances of Captain, 1st August, 1924; Major J. B. Birch, M.C., is appointed from the Reserve of Officers and to be supernumerary

to the establishment of Majors, with pay and allowances of Captain, 1st October, 1924.

Fifth Military District.

Australian Army Medical Corps.

To be Captain (provisionally).—Gilbert Reynolds Troup, 10th September, 1924.

To be Major, supernumerary to the establishment of Majors, with pay and allowances of Captain.—Captain M. B. Johnson, 1st August, 1924; Captain T. R. Jagger, M.C., is transferred to the Reserve of Officers, 3rd Military District, 9th September, 1924.

Reserve of Officers.

Majors A. Goldstein and C. H. Shearman are transferred to the Reserve of Officers, 2nd Military District, 20th October, 1924.

Major D. S. Mackenzie, D.S.O., is transferred from the Reserve of Officers, 2nd Military District, 20th December, 1924.

Australian Army Medical Corps Reserve.

Honorary Captain L. M. T. Hungerford is retired under the provisions of Australian Military Regulations 152 (1), 7th January, 1925.

Sixth Military District.

Australian Army Medical Corps.

To be Lieutenant-Colonel, supernumerary to the establishment of Lieutenant-Colonels, with pay and allowances of Major.—Major (Brevet Lieutenant-Colonel) W. L. Crowther, D.S.O., 1st August, 1924.

To be Majors, supernumerary to the establishment of Majors, with pay and allowances of Captain.—Captain (Honorary Major) J. Sprent, M.C., and Captain W. I. Clark, M.C., 1st August, 1924.

The provisional rank of Major granted to Captain C. N. Atkins is terminated, 19th October, 1924. Captain C. N. Atkins is granted the temporary rank of Major whilst holding the appointment of Assistant Director of Hygiene, 6th District Base Headquarters, 20th October, 1924. Major H. Z. Stephens is transferred to the Reserve of Officers, 1st December, 1924.

Post-Graduate Work.

THE FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.

THE following letter has been received by the Honorary Secretary of the Victorian Branch of the British Medical Association and handed to us for publication:

1 Wimpole Street,
London, W.1.
December 9, 1924.

DEAR SIR: With the approval of the Medical Secretariat of the British Medical Association, who have given valuable assistance in the matter, the Fellowship of Medicine and Post-Graduate Medical Association is attempting to make better known the facilities for post-graduate instruction offered in London to members of the medical profession overseas and it is thought that as the Honorary Secretary of your Branch, you may be interested to know something of the Fellowship's activities.

I have pleasure in enclosing herewith a specimen copy of our "Bulletin," which contains a full programme under subject headings of the general course of work available in the London hospitals in association with the Fellowship. Post-graduates taking out a comprehensive general ticket are entirely free to construct their own time-table from the various items set out in this programme and may attend any—or all—of the hospitals mentioned for instruction in such subjects as they may desire.

Courses in special subjects are also arranged from time to time at individual hospitals, as well as "refresher" intensive courses in general medicine, surgery and the various special departments. The accompanying copies of one or two typical syllabuses outline the instruction thus given. I also enclose a list of the courses arranged up to the end of June, 1925. Subsequent programmes will be forwarded as published.

A large number of overseas medical men and women have in the past availed themselves of the opportunities for post-graduate instruction offered by these courses, but the British Medical Association agrees with the Fellowship that this work should be more widely known outside the British Isles. It is thought, therefore, that with your kind cooperation, those who wish to come to England to study may realize that there is a Fellowship Association over here which is devoted solely to post-graduate work and which is willing to do all in its power to render assistance.

I shall be pleased at any time to help in every way any medical man or woman interested in post-graduate study and would point out that, apart from the courses arranged by the Fellowship, I am willing to do everything possible to supply information as to all post-graduate work available in London and any other part of the British Isles.

Yours faithfully,
(Signed) M. ROY.

Correspondence.

DEEP X-RAY THERAPY.

SIR: In your issue of January 24th occurs the following reported statement by Dr. Val. McDowall before a meeting of the Queensland Branch of the British Medical Association:

"Dr. McDowall said that he was prepared to be converted to deep therapy methods when they could show him results better than those achieved by the medium therapy, but up to the present he had not seen any results from deep therapy which had not also been obtained by suitable doses of medium therapy."

Yet all the cases of deep seated malignant growths, such as carcinoma of the uterus, reported free from clinical evidence of active disease for five years and upwards, treated by means of X-rays abroad, have all been treated by means of deep therapy and none whatever are reported as being treated by irradiation of low penetration, except such unusually radio-sensitive new growths, such as lymphe-sarcomata which are amenable to even small doses of irradiation. Nor is this at all surprising when one examines Dessauer's charts and notes that under certain conditions as 200,000 volts 50% of the rays will penetrate the tissues to a depth of twelve centimetres and 58% reaching ten centimetres, whilst under similar conditions 50% of the rays from a tube energized by 150,000 volts will not quite reach four centimetres and only 27% will penetrate ten centimetres. From these facts it will be readily understood that it is farcical to attempt to treat, say a uterine carcinoma in an ordinary sized patient by means of a tube energized at the lower voltage, where it is quite impossible to give an adequate dose at the site of the lesion by such means.

In view of his statement, why did Dr. McDowall neglect to inspect or examine the patients specially selected for demonstration purposes when he attended the Congress held in Melbourne in November, 1923? Had he done so, he would have seen some results such as have never been secured by means of "medium therapy." Even in the more superficial cases, such as those illustrated in the Supplement to THE MEDICAL JOURNAL OF AUSTRALIA, July 26, 1924, and which afford a very simple demonstration by ocular means, the improved results are striking. For instance, I have yet to learn of a similar extensive case of rodent ulcer destroying the entire nose which has cleared up by "medium therapy" or even by radium therapy. So far there is no recurrence for over two years since the last dose. With regard to the inoperable breast carcinoma illustrated, nine months irradiation previously with longer wave lengths did not cause the growth to heal, yet the first one or two applications of deep X-radiation caused it to heal completely within three months.

Yours, etc.,

H. FLECKER.

71, Collins Street, Melbourne.
January 29, 1925.

Obituary.

THOMAS CLIFFORD ALLBUTT.

It is with extreme regret that we have to record the death of Sir Thomas Clifford Allbutt.

Books Received.

PHYSIO-THERAPY IN GENERAL PRACTICE AND FOR THE USE OF MASSEUSES, by E. Bellis Clayton, M.B., B.Ch. (Cantab.); 1924. London: Baillière, Tindall and Cox. Demy 8vo., pp. viii. + 174, with illustrations. Price: 10s. 6d. net.

PRINCIPLES OF GENERAL PHYSIOLOGY, by Sir William Maddock Bayliss, M.A., D.Sc., F.R.S.; Fourth Edition; 1924. London: Longmans, Green and Company. Royal 8vo., pp. 882, with 261 illustrations. Price: 28s. net.

RATS AND HOW TO DESTROY THEM, by Mark Hovell, F.R.C.S., with Introduction by S. L. Bensusan; 1924. London: John Bale, Sons and Danielsson, Limited. Demy 8vo., pp. xiii. + 465, with 51 illustrations. Price: 10s. 6d. net.

THE INSULIN TREATMENT OF DIABETES MELLITUS, by P. J. Cammidge, M.D. (London), D.P.H. (Cambridge); Second Edition; 1924. Edinburgh: E. and S. Livingstone. Crown 8vo., pp. v. + 216.

WHAT IS THE ROOT CAUSE OF CANCER? IS IT THE EXCESSIVE CONSUMPTION OF COMMON SALT, SALTED FOODS AND SALT COMPOUNDS? by Frederick T. Marwood; 1924. London: John Bale, Sons and Danielsson, Limited. Crown 8vo., pp. 31. Price: 1s. 6d. net.

THE PRACTICAL MEDICINE SERIES, COMPRISING EIGHT VOLUMES ON THE YEAR'S PROGRESS IN MEDICINE AND SURGERY: Under the General Editorial Charge of Charles L. Mix, A.M., M.D.; Volume I.: Infectious Diseases, Diseases of the Chest, of the Blood and Digestive System; 1924. Chicago: The Year Book Publishers. Crown 8vo., pp. 736, with illustrations.

THE MEDICAL YEAR BOOK AND CLASSIFIED DIRECTORY, 1925, Edited by Charles R. Hewitt; Second Annual Issue; 1924. London: William Heinemann (Medical Books), Limited. Crown 8vo., pp. 596. Price: 12s. 6d. net.

MANUAL OF MEDICINE, by Thomas Kirkpatrick Monro, M.A., M.D.; Fifth Edition; 1925. London: Baillière, Tindall & Cox. Demy 8vo., pp. xviii. + 1,033, with illustrations. Price: 25s. net.

GREAT EVENTS IN AUSTRALIAN HISTORY, by Joseph Bryant; 1925. Sydney: Cornstalk Publishing Company, Angus & Robertson, Limited. Crown 8vo., pp. 178, with illustrations.

THE ADVANCE OF ORTHOPÆDIC SURGERY, by A. H. Tubby, C.B., C.M.G., M.S. (London), F.R.C.S. (England), F.S.A.; Reprinted from "The Clinical Journal"; 1924. London: H. K. Lewis & Company, Limited. Crown 8vo., pp. xii. + 144, with illustrations. Price: 7s. 6d. net.

CONCEALED TUBERCULOSIS OR "THE TIRED SICKNESS," by George Douglas Head, B.S., M.D.; 1924. Philadelphia: P. Blakiston's Son & Company. Demy 8vo., pp. 137. Price: $2.00 net.

GUY PATIN AND THE MEDICAL PROFESSION IN PARIS IN THE XVIIth. CENTURY, by Francis R. Packard, M.D.; 1925. New York: Paul B. Hoeber, Incorporated. Post 8vo., pp. 334, with seventeen illustrations, including nine full page plates. Price: $4.00 net.

THE PRACTICAL MEDICINE SERIES, COMPRISING EIGHT VOLUMES ON THE YEAR'S PROGRESS IN MEDICINE AND SURGERY: Under the General Editorial Charge of Charles L. Mix, A.M., M.D.; Volume III: The Eye, Ear, Nose and Throat; 1924. Chicago: The Year Book Publishers. Crown 8vo., pp. 491, with illustrations.

PRÉCIS DE CLINIQUE SÉMIOLOGIQUE, par Gaston Lyon; 1924. Paris: Masson et Cie. Post 8vo., pp. 733. Price: Francs 28, net.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xviii.

ALFRED HOSPITAL, MELBOURNE: Medical Vacancies.

AUSTIN HOSPITAL, HEIDELBERG, VICTORIA: Senior Resident Medical Officer.

DEPARTMENT OF HEALTH, MELBOURNE: Three Medical Officers.

QUEEN VICTORIA HOSPITAL, MELBOURNE: Medical Superintendent.

ROYAL AUSTRALIAN NAVY: Medical Officer.

ROYAL NORTH SHORE HOSPITAL OF SYDNEY: Medical Vacancies.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C..

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited Mutual National Provident Club. National Provident Association.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIAN: Honorary Secretary, 12, North Terrace, Adelaide.	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIAN: Honorary Secretary, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

MAR. 3.—New South Wales Branch, B.M.A.: Ethics Committee.
MAR. 3.—Tasmanian Branch, B.M.A.: Council.
MAR. 4.—Victorian Branch, B.M.A.: Branch.
MAR. 4.—Section of Obstetrics and Gynæcology, New South Wales Branch, B.M.A.
MAR. 6.—Queensland Branch, B.M.A.: Branch.
MAR. 10.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
MAR. 10.—Tasmanian Branch, B.M.A.: Branch.
MAR. 12.—Victorian Branch, B.M.A.: Council.
MAR. 12.—South Australian Branch, B.M.A.: Council.
MAR. 13.—Queensland Branch, B.M.A.: Council.
MAR. 17.—New South Wales Branch, B.M.A.: Medical Politics Committee: Organization and Science Committee.
MAR. 17.—Tasmanian Branch, B.M.A.: Council.
MAR. 18.—Western Australian Branch, B.M.A.: Branch.
MAR. 18.—Western Medical Association, New South Wales.
MAR. 24.—New South Wales Branch, B.M.A.: Council (Quarterly).
MAR. 25.—Victorian Branch, B.M.A.: Council.
MAR. 26.—New South Wales Branch, B.M.A.: Branch (Annual).
MAR. 27.—Queensland Branch, B.M.A.: Council.
MAR. 31.—New South Wales Branch, B.M.A.: Council.
MAR. 31.—Section of Hygiene and Preventive Medicine, New South Wales Branch, B.M.A.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

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